Medical Times
AND LONG ISLAND MEDICAL JOURNAL
Consolidated.

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

61 Years of Faithful Service

Vol. LXI, No. 1 | NEW YORK | Twenty-Five Cents a Copy Two Dollars a Year

In This Issue

JANUARY, 1933

Island Medical Journal Consolidated. Established 1872 and published monthly at New York by Romaine Pierson Publishers, York, N. Y. Entered January 15th, 1931, as second class matter. Post Office at New York, N. Y. Act of Congress of March 3rd, 1879. Subscription price, $2.00 a year, 25 cents a copy. Vol. LXI, No. 1.

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A Monthly Record of Medicine, Surgery and the Collateral Sciences

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The Twentieth Hole in Golf

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A BANKER hurried through his morning duties to join a foursome. Early in a close, exciting game his "old indigestion" bothered him. This was not a new complaint, but he considered it of little moment because he had just eaten heartily. At the 16th hole "the indigestion" had returned, and at this time was more severe as he walked up grade. "Digestive" tablets did not give the usual relief. Teeing off, he could not maintain the rapid gait of his friends. It was embarrassing to slow down but it relieved the pain. An unusual, intense perspiration was attributed to the heat. He completed the 18th hole in discomfort. That evening, after dinner, he felt fatigued and prostrated. Too exhausted to eat; too tired to speak; too nervous to sleep; he had to forego his evening activities. This case is typical of many: he was playing the twentieth hole.

THE twentieth hole in golf is usually played in the quiet of the home or in bed, but may be started on the golf course. It does not necessarily follow the nineteenth hole, which may be omitted entirely, but it is the part of the game played, as a rule, several hours after the eighteenth hole. The technique of play is entirely different from that of any other hole. The stance is different; in fact, there is no stance. In its place is substituted a reclining position with relaxation that is more complete than at any other period of the game.

The twentieth hole is by far the most important of any in the game, for it not alone affects one's score in subsequent games of golf but is a determining factor in the game of Life. Not uncommonly it determines whether that will be three score years and ten, or less.

There is no question of the increasing popularity of golf as a sport and a recreation. Neither is there any question that the game has a morbidity and a mortality that are not commonly recognized as such. Men are often made ill by over indulgence in the game and, in not a few instances, an early and unnecessary fatality has occurred because the game was played well but not wisely. How frequently we hear the statement: "I think I played a little too much golf yesterday; I do not feel so good to-day" or "Some days I feel all right after eighteen holes

and then again, the last few holes tire me out." It rarely occurs to the individual to ask himself, how, when and where he played the game.

BUT what possible difference could that make, as to when, how and where? Well, these are the facts. The great majority of persistent and consistent players of the game are those over the age of forty years. The man between forty and fifty years is probably at the height of his responsibilities and capabilities. Whether he is willing to admit it or not, the responsibilities may increase but the capability tends markedly to decrease, particularly upon the merely physical side. Therefore, the participation in keen competition; in business or in the game of golf; the prolongation of physical effort or the sustaining of unusual physical effort for a shorter period becomes a factor of no small concern to the individual approaching or over the age of fifty years. Many such individuals unthinkingly accomplish what for them is over-exertion, although they may not recognize it as such. More frequently, the chief complaint is overtire and a lack of desire for the usual meal. This may occur some hours after the unusual or prolonged effort and, not uncommonly, the added symptom of slight abdominal discomfort has been wrongly attributed to so-called "indigestion."

The golfer has at least a good reason for continuing his game; the game is a direct challenge to his self control. But self control involves more than mere confidence in his ability to do an easy job well; to relax to the point of enjoyment and not to take the game and the individual score too seriously. We all take golf more or less seriously; our most enjoyable games are those in which we made our lowest scores or one or more fine or unusual shots. Deliberately broken clubs, jarred tempers and repeated threats to give up the game all evidence the fact that we take the game seriously. We would not continue to play if we did not. Self control involves the selection of a suitable course to play upon so that the proper relaxation of mind which contributes so much to the benefits and the joys of the game while actual play is on may be followed by healthful relaxation of the body and the heart muscle after the game has been completed.

NOW, acute cardiac strain from overexertion may leave the heart permanently crippled or may accentuate degenerative changes. If persisted in it commonly leads to enlargement of the heart and changes in the arteries which lead again to early degenerative changes in the circulatory system. It is common enough for men to be careful in the preparation for their game on the morrow. It is common enough to find the player foregoing that extra cocktail or insisting upon an early to bed principle, because he must be in condition for to-morrow's competition. How seldom, however, do we find a man as cautious about what may happen several hours after his game. It is the main purpose of this communication to lead all golfers of middle age and over to a careful consideration of their capacity for the game to the end that they may enjoy it indefinitely.

Now frankly, what occurs when extra holes are played beyond the capacity of the particular individual? Or when a much smaller number of holes are played on a course that is not nearly flat and requires frequent efforts to climb elevations and walk relatively long distances over hard or rough fairways? The player experiences a sensation of shortness of breath; a consciousness that effort is being made which is not comfortable. This is a most important warning if it occurs after exercise or exertion. Breathlessness is one of the commonest and earliest symptoms of heart disease. It should not, however, be misinterpreted as there is also a normal amount of incapacity. For instance, it is normal to become out of breath after climbing three or four flights of steps, or from walking upgrade 250 to 300 yards. If the same individual becomes gradually or suddenly restricted to one or two flights of stairs or upgrade for 75 to 100 yards, this indicates lessened response to effort, and is a symptom of disease. Accompanying this dyspnea, heavy beating or rapid beating, sometimes called "fluttering" by the patient, may be felt with anything more than ordinary exertion. Sensations such as fullness, heaviness, smothering, pressure, tightness, constriction, choking or dull ache, may also occur due to heart disease.

ANGINAL pains due to heart disease are commonly misinterpreted and mistaken for a so-called "indigestion.","muscle strain," or "a cold in the chest." Because of this misconstruction the individual continues to exert himself against nature's signal of danger. Finally he either slowly or suddenly meets with the terrifying and excruciating attack, caused by obstruction or occlusion of the blood supply in one of the coronary arteries and in its branches. This severs the circulation to that part of the heart supplied by the artery, producing an ischemic or deficient area that can no longer function without nourishment. These warnings should be investigated by a physician to ascertain if the heart is at fault. The location of such discomfort is immensely important. If due to angina it is felt beneath or close to the sternal borders in the great majority of cases. Unfortunately, the pain in some cases of angina is felt in the epigastrium and sometimes in the region of the shoulder or back, in the arms, or possibly in the neck region. To make the diagnosis more difficult and misleading, it may only be felt in the right shoulder, or the right arm region.

The pain or discomfort may remain localized, or, as in the majority of cases, it radiates to either the shoulder, neck, or down the arm to the fingers (usually the ring and little fingers). In 75 per cent of the cases the pain is felt in the left extremity.

An attack of discomfort or pain due to angina pectoris seldom comes after prolonged rest. Exertion is the common exciting factor, although excitement may be a predominating cause. It not uncommonly occurs during the period of relaxation which follows overexertion and overtire. It is not uncommon to read an account of a man who has undergone some unusual or prolonged physical exertion, followed by a more or less heavy meal and several hours later by sudden death. So golf mortality is something that cannot be neglected.

We have found that the influence of emotion and excessive use of tobacco can cause pain or discomfort in the region of the heart and the laity, particularly, are inclined to give little thought to these as a cause for their "ill feelings."

OBESE individuals, especially those with large and protuberant abdomens, seek exercise for loss of weight, and often turn to golf. With displacement of the diaphragm upwards the heart rotates on its long axis, and is displaced upwards and to the left. By this change of position, the larger blood vessels at the base of the heart tend to become narrowed or kinked. This lessens the blood supply. The heart muscle is supplied by coronary arteries which fill in diastole. Exertion and excitement cause an increase of the heart rate, which shortens the diastolic phase of the cardiac cycle, lessening the amount of blood supply. It is more apt to effect

(Concluded on page 3)

Fascia Plication in the Repair of Inguinal Hernia*

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THE occurrence of hernia in man is co-extensive with the human race, and can be considered one of the group of disorders to which man became subject when he assumed the erect posture. It was doubtless one of the earliest of human defects to be recognized because of its obvious character and even in primitive times was treated by some form of crude supporting appliance. Though operative treatment of hernia was known first in classical times and practiced by several of the Fathers of Medicine, it practically disappeared with the general decline of learning during the Dark Ages and our modern knowledge of the subject dates from the Renaissance, when such men as Fabricius and Ambroise Paré employed methods of ligating the sac. With the advent of aseptic surgery the development of the treatment of hernia has progressed rapidly and today the literature is full of various methods, almost too numerous to count, most of which are based on the ever-enduring principles, first described by Bassini, which place reliance mainly upon muscle tissue or an admixture of muscle and tendinous tissue, as is usually the case in the so-called conjoined tendon. Too often do we find little or no tendon tissue at all, or at best only in the lower one-third, and are forced to rely on muscle fibers alone to complete our repair. In recent years several investigators in experimental surgery have shown that muscle tissue does not tend to adhere well to aponeurotic tissue. Even in normal anatomic relationship where in the body do we find these two tissues—muscular and dense fibrous or aponeurotic tissue—firmly adherent? This fact is best exemplified by a consideration of the recti muscles of the abdomen, which have been cleverly supplied with tendinous insertions to gain a firm functioning purchase on their anterior sheaths; and in between these insertions muscles and fascia are very loosely adherent, as evidenced by the ease with which these muscles can be separated from their sheaths merely by blunt finger dissection. With these facts in view, proven anatomically and experimentally, is it not surprising that modern surgery has made so little effort to devise a method of operating for inguinal hernia which is based on the sounder principle that fascia can be relied upon to adhere to fascia and not to muscle or muscle-tendon tissue?

MODERN surgery is beginning to place itself on a high pedestal, particularly in the eyes of the public. Little by little the average patient is losing the feeling of fear and uncertainty with which he approached the operating table even a decade or so ago. Gradually he is gaining a hitherto unfelt confidence that all will be well and that the operation he has to undergo will result successfully and restore him to the health that he desires. More and more patients that hitherto were lacking in this confidence will now often come of their own accord and request an operation because they are reasonably sure of a successful outcome. The operation for inguinal hernia has never been a serious one from any standpoint. The mortality rate is less than one-half of one per cent and any patient will take that chance, but viewed from the standpoint of recurrences is there not something wrong when the percentage of recurrences in any modern hospital to-day runs between 10 and 15 per cent?

Of recent years the subject of inguinal hernia has gained in importance through channels of economic and sociologic advance. The Workmen's Compensation Law, the demand for fitter labor, the stricter rules of fire and police departments, a more active interest on the part of Life Insurance companies in the health of their policyholders, etc., are causing more patients to present themselves for operation and fewer trusses are being worn.

THE ideal aim of any hernia operation is to effect a cure, and curing, in the fullest sense of the word, means preventing recurrence. In order to accomplish this aim it is necessary to not only do away with the conditions immediately present but also to make a satisfactory reconstruction of the whole hernial region. Consider then the statement so often heard that getting rid of the sac is the all-important factor in curing a hernia. When analyzed intelligently this statement will be found to be fundamentally unsound. The one essential condition for the existence of a hernia is not the presence of a sac but the presence of a hole or defect in the containing and restraining structures of the abdominal wall, and unless we close this defect we haven't cured the hernia. It is true that by removing the sac we temporarily do away with the protrusion, but we still have a potential hernia which will in all probability recur sooner or later. To go further, one might even venture to say that it would be quite possible to permanently cure a hernia if nothing were done to the sac other than to dissect it free and invert it back into the abdomen without opening it or without even ligating it, provided the hole through which it protruded were satisfactorily closed. Let us consider then the relative merits of the various

* Read before the Queensboro Surgical Society, May 16, 1932.

(*Concluded from page 2*)

those individuals who already have more or less narrowed or sclerotic blood vessels, adding greatly to the lessened amount of blood supply, even in the absence of exertion or excitement.

Golf is a great game; so is Life. Both require concentration and relaxation. Keep the head down in Golf and keep the heart up in Life. No two individuals are exactly alike; therefore one may play the game on as long and as hard a course as one likes, but watch out for the danger signals if approaching or past middle life. At the first signs of danger, shorten the game or change the course. There is quite as much competition, skill and companionship on the short course as on the longer one; and often more of real comfort and health. Nine holes on a long, hard course may be too much; eighteen or more on a flat, easy course may be safe for the same individual.

Some have been advised to give up golf, but, before that is decided, it is only fair that one's physician should be told what kind and length of course one plays and to what extent it taxes one's endurance. Not unmindful of the many tragic disasters and the ill-health induced by over-exertion in this fascinating game, we feel compelled to warn the golfer to play the game safely within his individual capacity.

structures available for satisfactorily repairing this hole. Surely no reliance can be placed on that thin, yielding single layer of mesothelial cells called the peritoneum, and surely none on the much-talked-of but seldom identified friable structure known as the transversalis fascia; some consideration can of course be given to the muscles and conjoined tendon (if any real tendinous tissue happens to be present), but our main trust should be placed in that firmest and strongest supportive structure with which the human body is endowed—the aponeurosis of the external oblique! It is composed of dense fibrous tissue similar to that which makes up the supporting fascial layers of all parts of the body. The muscles of the extremities as well as of the trunk are held in place by fascial envelopes and wherever cavities exist without a bony enclosure we find an osseous substitute in the fascia. So in the lower part of the abdominal cavity we find the basic element of permanent support to be the aponeurosis of the external oblique. Sutured muscle fibers do not resist constant strain or pressure while sutured fasciæ and aponeuroses, especially if reinforced by overlapping, will endure and withstand constant stress and strain.

HAVING thus established proper closing of the defect as the all-important factor in preventing recurrences and having made our plea for utilization of fascia, let us consider the other remaining less significant factors which tend to prevent us from attaining our ideal aim and purpose. For convenience sake these factors may be divided into controllable and non-controllable ones. By non-controllable factors we mean those conditions inherently peculiar to each individual case which confronts us and over which the surgeon has no direct control. They may be enumerated as follows:

1. The male sex—the presence of the spermatic cord has always been a serious impediment to securing firm union.
2. Advanced age and poor general condition of the patient.
3. Occupations entailing heavy labor.
4. Size of the hernial orifice—the larger the defect the more likely we are to have a recurrence.
5. Poor or weakened condition of the tissues.
6. The skill of the individual surgeon.

These factors are matters of such common knowledge as to involve no necessity for discussion here, except to observe in passing that use of the fascial plication operation we are about to describe seems to reduce them to the lowest level of importance.

By controllable factors we mean those over which the surgeon by means of his skill and judgment exercises more or less direct control. They are as follows:

1. Type of anesthetic.
2. Postoperative vomiting, coughing, or straining to expel an enema or a stool that has been permitted to become constipated.
3. Infection.
4. Too short a period of convalescence.

THERE has always been a general undercurrent opinion that the use of local anesthesia in hernia operations does not permit of as thorough a repair being done and therefore tends to predispose toward a recurrence. On the contrary, it is, however, the anesthetic of choice if administered skilfully. Of course, if our patient squirms and strains with every touch of an instrument from an improper infiltration of the anesthetizing solution the work *does* become more than difficult to complete properly, but for such a condition to prevail is inexcusable. Nowhere in the body does any region lend itself so beautifully to this form of anesthesia as does the inguinal region. The fact that by its use postoperative vomiting, coughing, and constipation are reduced to a minimum, if they occur at all, more than offsets any possible disadvantages. Perhaps one of the reasons that local anesthesia has not met with universal favor is the tendency to use sparing amounts of an unnecessarily strong solution instead of adequate and even copious amounts of a weak solution such as ½ per cent. That infection is a factor predisposing to recurrence is evidenced by the fact that 30 per cent of recurring hernias will be found to have been infected cases, whereas only about 15 per cent of all hernias become infected. The chances of infection may be lessened by giving an upward and medial curve to the skin incision and by placing it as high up and away from the groin as possible, and also by flushing the wound with adequate amounts of a 2 per cent aqueous mercurochrome solution before closing. Cases should not be allowed to return to work until at least two months from date of operation.

SOME six years ago there came to our attention an operation for the radical cure of inguinal hernia based on the principle of fascial plication which impressed us as having a decided advantage over any of the various methods commonly in use. Having been brought up on the classical Bassini, and having learned to employ any of its various modifications to suit the conditions present in a particular case, it was with considerable misgiving that we decided to give up all these old standbys and to adopt this one method routinely in all cases. As time went on, however, this feeling of hesitancy gave way to one of great enthusiasm and now we use it with the utmost confidence that maximum results will be obtained in any type of case. This enthusiasm is not indulged in without a full realization of the relatively small number of cases in which this method has been employed and the comparatively short time they have been followed up. To be more exact, we have used this method in the past six years on considerably more than one hundred consecutive cases and over 96 per cent of them have been followed up. We are gratified to be able to state that there has not been even one single recurrence. To offset this relative paucity of cases together with the comparatively short time of the follow ups (in the more recent cases only) we may cite the fact that if a case is going to recur it usually does so within the first year, the average time being seven months; and again the fact that in any series of cases the percentage of recurrences as stated before is generally conceded to be between 10 and 15 per cent. In this series there were no infections other than an occasional stitch abscess. The usual proportion between direct and indirect hernias of about one to ten prevailed and there are included four recurrent hernias and two sliding hernias of the cæcum. These recurrent cases and the two sliding ones—types notoriously unsatisfactory with which to deal—have been followed up for over two years and are all in perfect condition so far in spite of having resumed occupations entailing heavy labor. It might be well to emphasize here again that this operation seems to prove satisfactory in any type of case, whether indirect, direct, congenital, sliding, or recurrent.

THE technique of the operation may be described as follows: The skin incision is made on a curve with the convexity upwards, keeping it as high as practicable above Poupart's ligament, and the lower flap is re-

flected downward exposing the external ring and the cord. This procedure minimizes the chances for infection by keeping the skin incision at a maximum distance from the groin, at which point it is difficult to fasten the dressing so as to properly protect the incision from con-

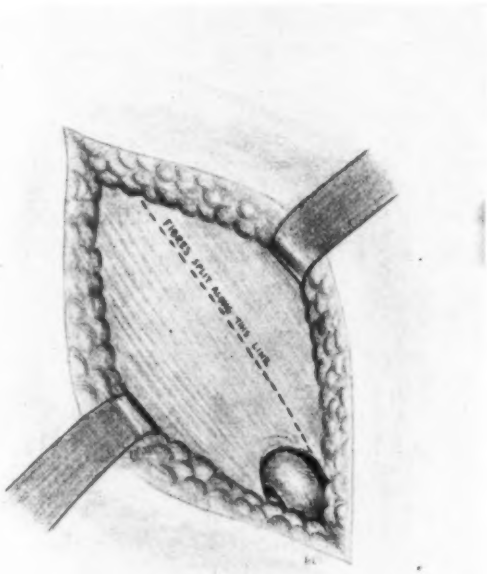

Fig. 1. Splitting of fascia, beginning at medial border of external ring.

tamination. The usual straight incision often becomes partially exposed because the dressing works upward when the patient moves in bed.

The aponeurosis of the external oblique is then split upward in the direction of its fibers, beginning at the medial border of the external ring instead of at the mid-angle of the ring as is customarily done. The higher the line of incision is made in the aponeurosis the greater will be the width of the inferior flap, and the surfaces for plication will be that much broader, thus insuring the largest coaptating surface and the greatest assurance of permanent secure union. By this broad plication the region is better fortified against the chances for a complete separation if some undue early stress and strain or later heavy tension should occur. The cord is next dissected free low down toward the scrotum and high up into the internal ring, for in this plication technique a greater length of cord is required than for the ordinary herniotomy. It will often be noted that immediately following the operation the testicle is held considerably higher in the scrotum than before the operation, but it gradually gravitates to a relatively normal level of suspension. As has been said before, no reliance can be placed on the peritoneum for strain-bearing and if the hernial defect is not adequately repaired the peritoneum will not stand the strain alone, nevertheless it would seem advisable to make as high a dissection of the sac as can be conveniently made, resecting any lumps of properitoneal fat, and it has always seemed advantageous to anchor the stump at a point higher than the internal ring. By ligating the sac with a transfixion suture, then passing the needle—blunt end first to avoid any possible injury to the underlying deep epigastric vessels—through the muscle fibers of the transversalis and internal oblique and tying the ligature with a stitch through the surface of these muscles, the stump of the sac can be at least temporarily anchored and possibly permanently held by scar tissue at a point higher than the internal ring. We would like to call particular attention to the method employed for keeping the cord out of the field of operation. The usual method of passing a gauze strip or tape around it is not only cumbersome, but often twists and bruises the delicate tissues of the cord unnecessarily. Two clamps are placed on the edge of the lower flap of the aponeurosis, one at the level of the internal ring and the other at the lower corner, with the cord lying lateral to and behind them. No additional crushing trauma to the flap is necessary, as these same two clamps serve a later purpose as traction clamps in holding the flap in the proper position for suturing.

WE are now ready for the actual repair, but before describing this step we wish to emphasize the point that in this operation no use whatever is made of either the muscles or the conjoined tendon. They are ignored absolutely. We believe that a preliminary suturing of them to the base of Poupart's ligament is not only negatively a useless procedure but is positively an actual hindrance to the proper carrying out of the Fascial plication. Not only is much of the valuable and useful surface of Poupart's ligament thereby wasted but a more or less bulky mass of soft tissue is placed directly in the way. By actually *leaving out* the step which is the basis of the classical Bassini operation we *add to* the strength of the part of the abdominal wall we are repairing.

IN fascial plication work we are taught a lesson from the principles of bone surgery, namely, that to secure a firm osseous union it is necessary to make an accurate

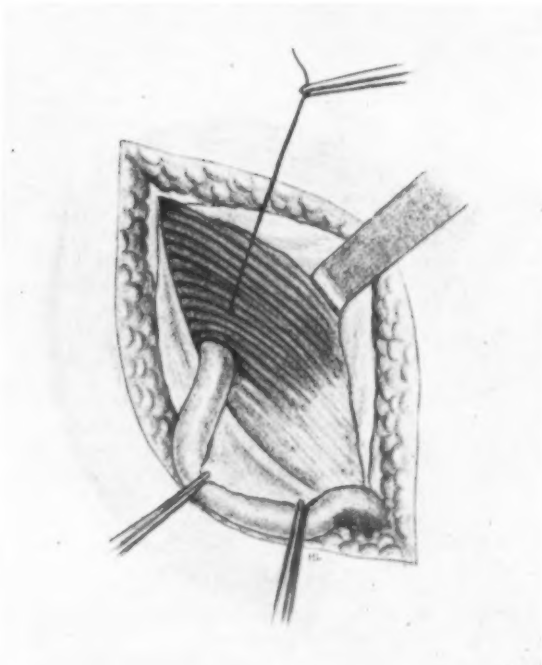

Fig. 2. Anchoring stump of sac at a point higher than the external ring (note method of keeping cord out of the field of operation).

contact of osseous elements. It is highly important, then, that the fascial flaps, of which there are an upper and a lower, be carefully prepared by thoroughly remov-

ing any fatty or areolar tissue which would otherwise prevent firm cohesion of the coaptating fascial surfaces. The lateral edge of the upper flap is sutured as low as possible to the base of Poupart's ligament, beginning at the pubic spine and continuing upward around and beyond the

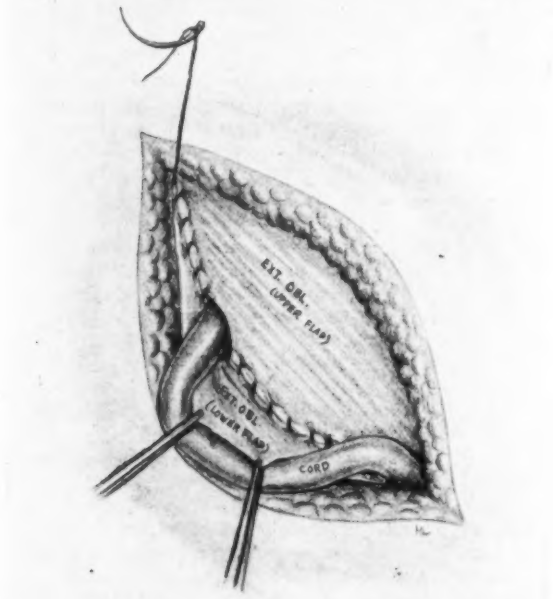

Fig. 3. Edge of upper flap of fascia sutured to Poupart's ligament above and below exit of cord.

exit of the cord at the new internal ring which is now composed solely of fascia. Utilizing the same continuous suture, the lower flap is then sutured along its medial border to the anterior surface of the upper flap and the repair is complete. How simple yet how strong and effective! It is practically impossible for anything to break through this barrier at any point. The cord emerges from the abdominal cavity at a point high up where it least endangers the permanency of the repair, and then turning medialward it runs through a new fascial canal between the two flaps in a direction to impose the least impediment for a complete fascial approximation. It is subcutaneous for the remainder of its extent. Though the cord is angulated where it leaves the abdomen and enters the fascial canal and again when it becomes subcutaneous, neither angulation is sharp or disadvantageous. On the contrary the new position of the cord makes it almost impossible for the peritoneum to ever again protrude from the abdominal cavity. In the first place, a hernial protrusion seldom follows a tortuous course through parietal structures, and in the second place, with every strain a definite pressure is exerted upon this new canal of the cord which is not enough to interfere with the circulation of the cord but is sufficient to restrain a potential peritoneal protrusion. As to the question of suture, material experience has shown that a number one chronic single continuous suture proves the most satisfactory. This does not take too long to be absorbed, will endure much longer than is necessary for fibrous tissue cohesion, and is of sufficient temporary strength. The running suture does not produce the constriction that a single tie does and with its use only two buried knots are required. We have encountered only two cases where the fascia was attenuated to such a degree that its strength could not be unquestionably relied on, but by the use of prepared fascia lata strips, either alone or together with our catgut suture, this difficulty was easily overcome.

THE wound is flushed with 2 per cent aqueous mercurochrome solution and the deep layer of the superficial fascia is carefully identified and sutured to give a soft pad covering for the cord and to eliminate any dead spaces, as such frequently hold a blood clot which fails to absorb normally. All bleeding points must be carefully ligated, as the vasoconstriction immediately following the injection of adrenalin into the tissues may easily mislead us as to the severity of the bleeding, and the latent vasodilatation may cause an unexpected hematoma. The skin is closed with any non-absorbable material. A light dressing is applied carefully sealing off the

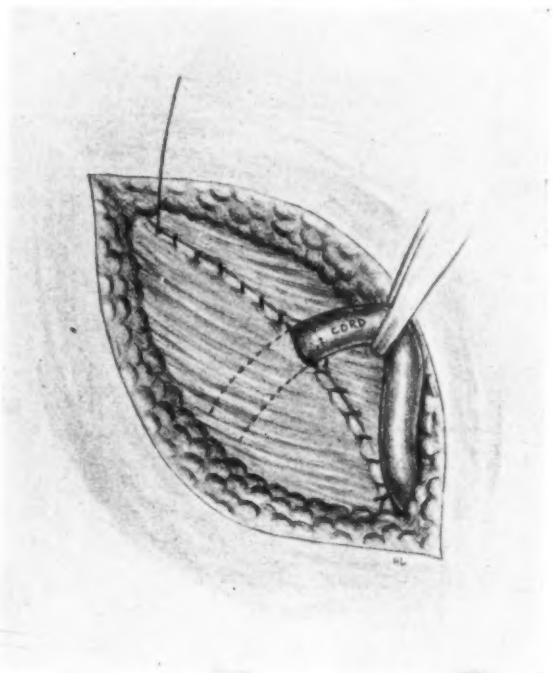

Fig. 4. Lower flap plicated over upper flap forming new fascial canal for the exit of cord.

wound from the groin, and a Bellevue bridge for scrotal support is applied routinely. The patient is kept in bed twelve days, goes home on the fourteenth day, and goes back to work in six weeks.

90-30 150th Street.

Discussion

DR. FRANK N. DEALY: "It might be well to start this discussion with the story as to how the expression 'War is Hell' originated. As you know, it has been ascribed to a famous general in the Civil War, but it apparently was not due to the devastation resulting from the "march to the sea." The true story seems to be that this particular general had a hernia which would come down frequently and often become incarcerated. His colored orderly was about the only one who could reduce it. On one such occasion the General sent for his orderly but, according to the story, word was brought to him that the orderly had been killed. This was the situation that brought forth the famous expression, and not the hardships of the campaign. If a hernia, therefore, can give rise to such an expression, it should be worth our efforts to devise a lasting cure.

"There are certain points to be emphasized in this problem of hernia. The question of local anesthesia is a very important one, and its use, I think, is ideal, as Dr. Meynen says, particularly in thin patients. In fat patients with a thick abdominal wall, however, I believe it may add to the liability of infection. I am surprised at the statement that 15 per cent of all hernias

become infected. This is by far too large a percentage in wounds that should be clean.

"In preparing patients for operation, painting the skin with iodine, and then quickly washing it off with alcohol before it dries, is a bad thing. Extending this preparation to the scrotum is dangerous as well as unnecessary, because the skin, becoming macerated, gives an opportunity for the development of subsequent infection. I believe ordinarily it is unnecessary to paint the scrotum at all in doing a hernia repair and that more care should be exercised in seeing that a sponge which has once passed over a soiled area should not again touch the proposed field of operation.

The importance also of hemostasis is self-evident. We will have far fewer infections in hernioplasties if bleeding is stopped. Clean dissection in hernial work is vital.

"The repair of hernias can be difficult or it can be very simple. It is important to keep ourselves oriented and not wander into a lot of blunt dissection. The avoidance of heavy suture material, such as kangaroo tendon, is to be commended. I was down at Davis & Geck's recently and saw a No. 00 chromic suture withstand 11 pounds tension. It is not necessary, therefore, to use No. 2 or No. 3 or to use double strands of this heavy gut in the repair of hernia.

"In regard to recurrence: I believe it is perfectly true that 10 or 15 per cent of these cases do recur. I think, however, that a large proportion is in the direct hernia rather than in the indirect type. To avoid recurrence, we must find and remove the sac, repair the defect and avoid infection. Russell claims that removal of the sac is all that is necessary in any hernia, but I believe he is referring more to hernias in children. In an adult, repairing the defect is of considerable importance. Digital search, moreover, should be made from within for any additional type of hernia. I know of one case in which ten or twelve days after operation, as the patient got out of bed, his hernial mass recurred. This was, of course, no recurrence, but rather the persistence of an undiscovered femoral hernia which in the inguinal repair had been entirely overlooked. In looking for a sac or in doing a hernioplasty, we should not be content until we find the sac or demonstrate its non-existence."

The doctor now outlined the method of determining the presence of a sac in indirect hernia, referred to the separation of the vas up to the internal ring, and said that as the vas dips back and the vessels of the cord descend, there is an acute angle formed in which the sac always lies. If no sac is found after this method of dissection, one can be sure that an indirect hernia does not exist.

Continuing, Dr. Dealy said:

"Unnecessary procedures should be avoided. It is unwise, I feel, to remove the appendix for instance, through a hernial incision, unless there is a distinct indication for doing so. If there is a definite indication, it is wiser to enlarge the incision upward, making a regular McBurney incision at a higher level so as to obtain better access to the appendix.

"I have not been entirely converted to the use of the continuous suture of No. 0 chromic gut. I think interrupted sutures are preferable. I can, however, readily understand Dr. Meynen's point. I want to emphasize the fact that anyone who is interested in the number of buried knots he has in his wound is likely to be found among those doing the best type of work."

COMMENTS OF DR. DEALY DURING LANTERN SLIDE DEMONSTRATION:

"In the repair of the hernial defect, Dr. Meynen has emphasized the value of the apposition of fascia to fascia and has shown an ingenious way in which this may be secured. He deliberately ignores the conjoined tendon. In Philadelphia I once saw a hernial repair by Dr. Clark which struck me as being particularly clever, for in addition to utilizing the principle of fascial plication it also made use of the muscle and conjoined tendon in closing in and buttressing the defect. As shown in the slides, each of a number of interrupted sutures is passed through the fascia, directly back through the muscle, coming around its edge after getting a good bite on the muscle, and then comes around to catch the edge of the aponeurosis again. Each of these sutures is then passed through the edge of Poupart's ligament before being tied. When the suture is drawn taut, just enough to cause approximation, the muscle is brought over into the gap behind the aponeurosis and we still have fascia to fascia. If we have a large defect with a protrusion beneath the external ring, we may not have very good fascia in the first place, and may be very grateful for a little muscle. We can bring the muscle over in this way and still have fascial plication, which is the essential point that Dr. Meynen wishes to bring out. These sutures are put in, one after another, as many of them as are needed, up to the internal ring. The sac can be handled in the usual way, and then a few sutures are placed above this. (Fig. 2)

"Dr. Meynen speaks against the use of tape. The tape shown in the slide was used merely that the artist might have a better

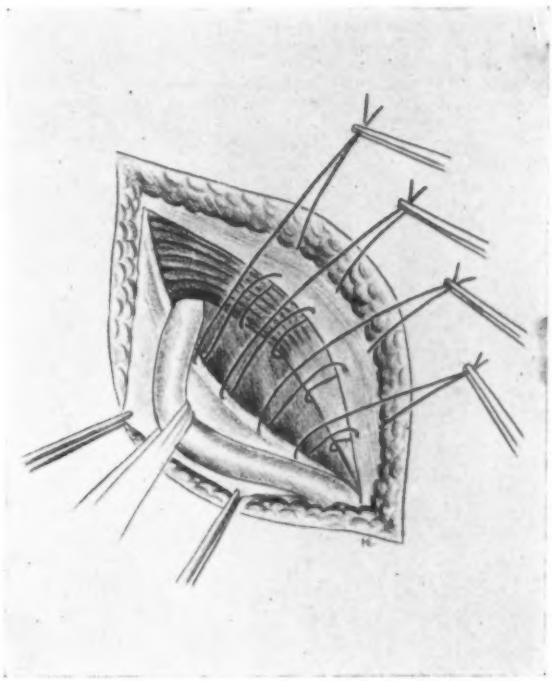

Fig. 1. Showing application of sutures grasping underlying conjoined tendon and muscle as well as aponeurosis of external oblique.

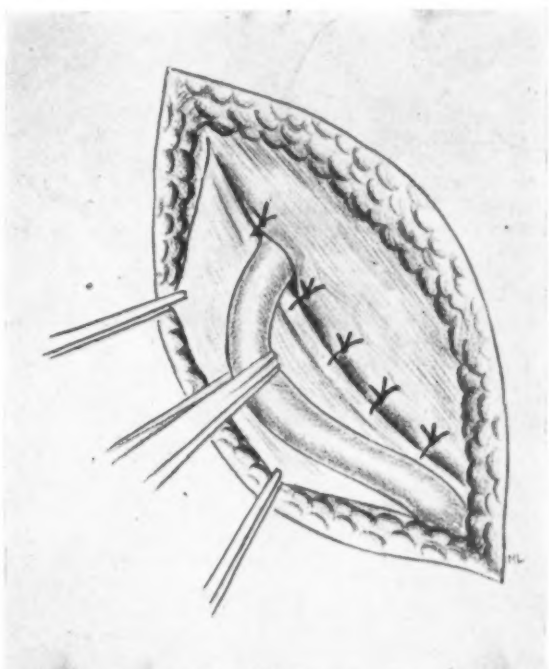

Fig. 2. Showing apposition of "fascia to fascia", hernial defect being closed and buttressed by underlying muscle as well.

opportunity of seeing how the suture was applied. A hernial tape, I agree, is probably never necessary.

"The next slide shows the fascia again drawn over. You have the same plication as in the other procedures, and in addition to that, you have, as the other diagrams show, the approximation of the muscle brought across to help close in the defect, although there is still fascia to fascia." (Fig. 3)

DR. WILLIAM H. BARBER: "I think there are but few of us who realize that the exponents of the interrupted suture are men like Halsted and Finney, masters in technic. It strikes me it is

taking a long chance to sew up both ways with continuous sutures of No. 1 chromic catgut, unless you have a group of cases with 2 per cent recurrence, or a very small percentage of recurrence. (At this point Dr. Dealy remarked that in the series reported by Dr. Meynen there had been no recurrences.) It seems almost unbelievable.

"The incision passed up towards the midline is something we

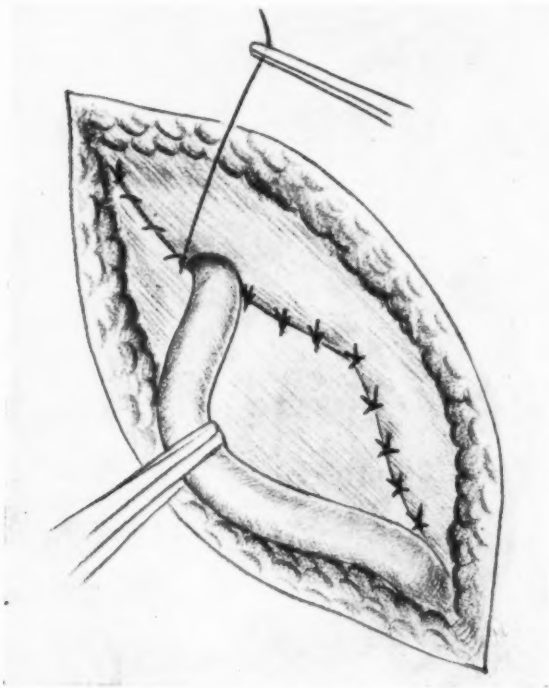

Fig. 3. Showing imbrication of aponeurosis of external oblique and final subcutaneous position of cord.

have advocated but have found greater recurrence after it. We believe also in careful and repeated preparation and in keeping irritants away from the scrotum. Some cases run a higher percentage of infections than similar groups in other hospitals. I think many of us agree on that point. I can't recall any infections at Jamaica Hospital in hernias. Such variations may be explainable on the basis of general health, personal hygiene, and medical supervision."

Dr. William K. Rogers: "I think this is a very excellent type of hernioplasty. I have been doing the same thing in association with some other men, with the exception of not transplanting the cord and ignoring the conjoined tendon, bringing the fascia over to Poupart's ligament, approximating it in the same way, but not transplanting the cord. As far as I know, the results have been excellent. Of course, one trouble with the results of hernias is that they don't always come back to the man who did them originally. We have had none come back."

Dr. Chester L. Davidson: "In regard to city hospital infections: there isn't any doubt but that we have more infections in city than in private hospitals. I think several factors are the cause of that. One is the class of patient we have to contend with; they are usually very dirty, particularly in the wards; sometimes the dirt is so caked it is impossible to get enough scrubbing down by the nurse on the floor to get them clean. If too much scrubbing is done, you have the same possibility, namely, infection from scrubbing off the epithelial cells. You see more of those in the city hospitals than in institutions like Jamaica Hospital, for example, in the same relationship to number of cases.

"In regard to the point of ligating the sac only, as advocated by Russell: in 1925, in the Cumberland Hospital, we took 25 cases of children, the first 25 cases that came in, regardless of the type of hernia, as long as it was an inguinal hernia. All we did in those cases was to ligate the sac and sew up the fascia. Up to the age of 9 years the results were perfect, but after that age recurrence was common. That was our experience with children with the Russell idea.

"I think the maneuver Dr. Dealy brought back from Philadelphia is very clever. It certainly gives an added support where there is a large opening or a weak conjoined tendon.

"Dr. Meynen's exposé of the new operation has, I think, added something to certain definite cases, but I can see where it would not workout in a certain type of case; for example, the hernia with a thin fascia down around the conjoined tendon where the strain would be too much, if you pulled on the fascia alone, and you would probably get a hernia on the other side of the suture line.

"Block anesthesia, I think, is ideal for ordinary inguinal hernias where you take a finger's breadth from the superior iliac spine and block off the ileo-inguinal and ileo-hypogastric.

"I think Dr. Meynen has presented something that is new in a certain selected type of hernia and that it has been well presented."

Dr. Joseph S. Thomas: "This is a very interesting paper. "Hernioplasty is one of the nicest operations that we do. I think I would rather do a hernioplasty than any other operation. I believe Dr. Meynen has the right idea. I think there is some value in classifying the two types of hernia, the direct and the indirect. Take an oblique hernia with the sac outside the cord. All you have to do there is ligate the sac; it can be dissected out and done without difficulty. I agree a little with Russell that in the indirect hernia the important thing is to ligate the sac even with the peritoneum. That is the most important single thing in the operation. After you have done that the cord lies where it is; it has not been disturbed, and is just exactly where it was since the patient was born. Therefore, you have got rid of the thing that causes the hernia. When you close that over with fascia or muscle inside the fascia, I don't see how you can get a recurrence of the hernia. You may get a direct hernia, but you can't get a recurrence of that hernia. A direct hernia is different, the sac is more difficult to find, you have to lift up the cord to expose it properly, and if there is any recurrence it is going to come in somewhere in back of the internal ring. The external ring must be closed with fascia and must be closed behind the cord. It is in that type of case, I believe, that Dr. Meynen's operation is very valuable. I think it is as good an operation as I have seen described except that, personally, I don't care to use a continuous suture. I would rather use linen for sutures. I have never had any infection from them. The knots are small and none that I have ever done have given any trouble.

"The recurrences in hernias are in the simple direct hernias. In the first place, they are hard to find and when you find them it is hard to be sure you have the sac ligated properly.

"I thoroughly believe in local anesthesia. I think there are a good many recurrences due to post-operative vomiting following general anesthesia and I cannot see any reason for doing anything quite so radical as a spinal anesthesia for a hernia, because except in very stout individuls, you can in most cases anesthetize the field perfectly satisfactorily with block anesthesia. If the patient is very stout, it is difficult to get sufficient anesthesia with local because, in the first place, you are going to use an awful lot of novocaine and I don't quite like to use more than 150 or 200 c.c. of novocaine, because although it is only very slightly toxic, I think if you use large quantities there may be some risk in it."

Dr. Frank N. Dealy: "It is, of course, impossible to standardize any one operation; we cannot use one operation for all cases; we cannot always transplant the cord; we cannot always use spinal anesthesia; we cannot always use a single suture. In other words, we must use what is best suited for the individual case.

"The question of the separation of the sac from the cord is, I think, a very important one. The cord must be handled with respect. We have more hematomas and infections and greater need for scrotal support in the early period of an interne's houseship than later on when he has come to appreciate the delicacy of tissues.

"Such complications are doubtless due to the rough handling of tissues, in coarse, blunt dissection, in the handling of the cord with tapes, compressing, twisting or constricting it in such a manner as to traumatize its contents, giving rise to necrosis, thrombosis and infection.

"Transplantation of the cord may not be necessary in certain cases, but the difficulty is that the cord emerges from the inguinal canal at the external ring, where abdominal support in the presence of a hernia, particularly of the direct type, is least. Every effort should be made to strengthen the area over the external ring. For this reason I have been transplanting the cord so it emerges high up; this gives a tight closure below, with less likelihood of recurrence.

"I don't want to go into the question of spinal anesthesia, but we must choose the anesthetic best suited to the case, the same as everything else that enters into the operative procedure. I think general anesthesia should be used cautiously in any hernia operation. The development of pneumonia or a persistent cough would be as great a strain as anything else on the operative repair. If

(*Concluded on page* 18)

The Rectum and Backache

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AN eminent woman physician once said that women may be divided into two classes—women with backs and women without backs. With many women backache is an habitual complaint from which they are never altogether free. As a rule it is located in the lumbar region, but may be located in the dorsal or sacral regions. Rest will relieve but not remove it; rubbing will no more than palliate it. Suspicion is first of all directed to the genital organs, but not infrequently these are found perfectly normal. Whatever lowers the muscular tone of the individual increases the condition. The causes of these backaches remain mere speculation; no satisfactory explanation has ever been offered. Certain it is that these causal factors are not peculiar to women, though in women they are vastly more frequent. Boys and men, the victims of venereal excesses, suffer from chronic backache, not differing from that of women in whom there is no suspicion of such cause. The cause is most likely attributable to the weak muscles which are unable to bear the strain of the body weight. It is self-evident that this cause operates more largely in girls and women who lack the gymnastic training of the stronger sex, and who are hampered in their development by the modes of dress.

It is to be borne in mind that constipation alone is often responsible for lumbar pains which are credited to the womb. Diseases of the kidney are popularly believed to be responsible for pain in the lumbar region and this is true in large part; but it is a fact that in the severe forms of Bright's disease there is little or no backache. We find it in movable kidney so frequently that it is always wise to examine the position of the kidney in all cases where the patient complains of backache. Pain in the back from lumbago is characterized by being aggravated by movements. Genital backache is a term applied to pain in the upper sacral region which is dependent upon some disease or disorder of the genital organs. If the backache is due to a disease of the genital organs there will be other symptoms and physical evidence of the disease. The pain referred to the cervical region is said to be pathognomonic of inflammation of the cervix. This is true in many cases but cannot be said to characterize the condition. No explanation for its occurrence is offered. Pain from retroflexion is lower in the sacral region than in other pelvic disorders. A sacroiliac pain is peculiar to the ovary. It is thereby seen that pain in the back dependent upon disease of the pelvic organs does not indicate the particular form or location of the disease per se; the various diseases cause pain differing in character.

Referred pains can be better understood when the organ is carefully studied with reference to its embryologic development in which case it will be seen that the usual visceral pain follows the segmental relationship which determined the innervation in early developmental life.

The inferior mesenteric plexus is derived from the left side of the aortic plexus. It surrounds the inferior mesenteric artery and divides into a number of secondary plexuses, the left colic and the sigmoid plexuses which supply the descending and sigmoid colon, and the superior hemorrhoidal plexus, which supplies the upper part of the rectum and joins in the pelvis with branches from the pelvic plexus.

The pelvic plexuses supply the viscera of the pelvic cavity and are situated at the side of the rectum in the male, and at the sides of the rectum and vagina in the female. They are formed by a continuation of the hypogastric plexus and by branches of the second, third, and fourth sacral nerves, and the first and second sacral ganglia. At the points of junction of these nerves small ganglia are found. From these plexuses branches are distributed to the rectum. They accompany the branches of the internal iliac artery.

The reflex center which governs the action of the sphincters and the muscular fibers of the rectum (defecation center) is situated in the lumbar cord, and appears to be capable of carrying out the whole act of defecation, even when separated from the brain.

The pudendal plexus is intimately knit with the lower portion of the sacral plexus. It lies on the posterior pelvic wall and is formed by branches of the second and third sacral nerves, the whole of the fourth and fifth sacral nerves and the coccygeal nerve.

It gives off:

(a) Visceral branches (pelvic splanchnics) which unite with branches of the sympathetic plexus to the rectum (the middle hemorrhoidal nerve).

(b) Muscular branches from the fourth sacral nerve supply the coccygeus, levator ani, and sphincters internus and externus; and the perineal branch which passes backward between the levator ani and the coccygeus into the posterior part of the ischiorectal fossa and then sends cutaneous filaments to the skin betwen the anus and coccyx.

(c) Sensory branches of the pudendal or really pudic nerve which after passing through Alcock's canal in the obturator fascia on the lateral wall of the ischiorectal fossa divides into three branches, the inferior hemorrhoidal, the perineal and the dorsal nerve of the penis.

The perineal nerve while in Alcock's canal divides into a deep and a superficial branch. The deep branch breaks up into filaments which pierce the medial wall of the canal and pass medially through the anterior part of the ischiorectal fossa to the sphincter and levator ani. Filaments of the perineal anastomose with the long pudendal and with inferior hemorrhoidal nerves and are distributed to the skin of the scrotum and perineum in the male and to the labium majus in the female.

The pudic nerve from the second, third and fourth sacral nerves spreads at its periphery like a fan, and gives off before its division the inferior hemorrhoidal nerve. Sometimes this inferior hemorrhoidal nerve originates separately from the third sacral nerve. It crosses the ischiorectal fossa with its accompanying vessels, toward the lower end of the rectum, and is distributed to the external sphincter and the integument around the anus. It also supplies the sphincters that guard the bladder and also the uterine cervix. Therefore, these organs must be in harmony, and in case of damage or lesion of any one the others are likely to suffer in consequence.

An ulcer of the rectum, fissure in ano, stricture or cryptitis will cause reflex spasm of the levator ani and sphincters of the anus and vagina, thus producing a local

neuralgia. In other instances widespread reflexes cause ovarian or uterine pains which closely simulate disease of these organs, i.e., spasmodic closure of the uterine (os) producing spasmodic dysmenorrhea. Such patients are not relieved by treatment directed to the generative organs but are promptly cured when the rectal disturbance is attended to. On the other hand, rectal pain and tenesmus may be due to cystitis, vulvovaginitis, displacements and adhesions of the uterus. Pain referred to the rectum may be due to strain of the ilio-sacral synchondrosis.

Thus through the ramifications of the pudic nerve, there is constituted a vicious circle. A lesion at the cervix, the ovaries or the prostate may cause pain in the rectum, while in turn a lesion in the anal canal, the rectum or pelvic colon may cause pain in the uterus and dysmenorrhea.

The cerebro-spinal system is only one factor in pelvic reflex phenomena, and rather a small factor as compared to the sympathetic system.

All of the pelvic viscera are abundantly supplied with sympathetic nerves. Some twenty large sympathetic nerve strands pass from the abdominal brain through the hypogastric plexus to the uterus alone, while many lateral strands supply the tubes and ovaries.

All of these organs are completely covered by a network of the fimbriae of sympathetic nerves. The pelvic colon, the rectum and anal canal, down to and including Hilton's white line, are similarly supplied.

Sympathetic Systems: The function of the sympathetic system of nerves is to control the circulation of the blood, the nutrition of the body and the rhythm of all rhythmical organs.

Any pathology found in the pelvic colon, the rectum or anal canal may affect either one or all of these functions in the uterus, tubes or ovaries. It may induce reflex irregularities of menstruation, such as amenorrhea, menorrhagia or dysmenorrhea. The dysmenorrhea results from spastic contraction of the uterus and tubes or from lack of nutrition of their nerve supply when the hungry nerves cry out in pain for food.

In many women diarrhea is often an annoyance during the menstrual period while in others obstipation is common. Some patients who suffer from chronic constipation between these periods have regular bowel evacuations or even diarrhea during menstruation. An obstinate diarrhea without colic or mucous discharge sometimes signalizes the beginning of the menopause. In other patients obstipation with a tendency to gas formation occurs at the climacteric and is resistant to the usual course of treatment. In such cases good results may be obtained with ovarian therapy.

Muscular branches from the fourth sacral supply the levator ani, coccygeus and external sphincter. The branches to the levator ani and coccygeus enter their pelvic surfaces; that to the external sphincter pierces the coccygeus, or passes between that muscle and the levator ani to the sphincter. Cutaneous branches of this sphincter nerve supply the skin between the anus and the coccyx.

The lesser sphincteric nerve is a branch from the fifth and sixth sacral. It enters the external sphincter muscle on either side at the point of juncture of the lower and middle thirds of the anal canal. The blocking of this nerve is very important in the technique of local anaesthesia of the anus.

It will be noted that the sensory nerve filaments are not supplied to the upper rectum but are liberally distributed in the lower portion of the rectum, the anal canal, the anus and surrounding integument. For this reason there is comparative absence of pain in the inflammatory disturbances of the bowel above the rectal ampulla, while there is an intense suffering when similar lesions occur at or below the level of the sphincter muscles, and operation performed in this region requires the profoundest anesthesia. The abundant and varied nerve supply of this region accounts for the many reflex pains which so frequently occur. Nervous filaments supplying the anus and rectum are all branches of trunks which supply the other pelvic organs and through the spinal cord are intimately related to the nerves reaching perhaps to distant organs and structures. The pain of anal fissure frequently acts reflexly on the neck of the bladder causing the retention of urine.

The obturator nerve does not contribute fibers to the intestinal canal, but arising from the second, third and fourth lumbar nerves, it runs along the lateral wall of the pelvis to the obturator foramen. In this situation it may be pressed upon by tumor, cancer or hardened feces impacted in the sigmoid colon, thus causing pain in the knee. The left obturator nerve is more frequently affected. Accumulation of feces in the rectum may also cause pressure on the great sciatic nerve in its course through the pelvis and give rise to sciatica.

Chronic colitis is an underlying etiologic factor often in uterine prolapse, retroversion and subinvolution. If a woman complains of pain below the transtubercular plane it is often lightly passed on as an ovarian lesion, if on the left side, although on the right side it may be either the ovary or appendix. When a man has right sided pain in this region, it is of course the appendix, but if on the left side, the final diagnosis may be left to an exploratory laparotomy. In many of these subjects the pelvic colon is the key-note to the situation and at your next opportunity look for the chronically inflamed colon with greatly thickened walls with a light brick color showing through the peritoneal covering.

Relation of Colon to Uterine Displacements:—Anatomically, the loop of the pelvic colon rests upon the top of the uterus in the female. A colon of this kind has practically lost all peristaltic action on account of this hypertrophy. The feces are delayed in their passage through the gut and impaction with added weight is the result.

Every muscle and ligament of the body should be in a state of normal tonus. This tonicity is maintained by the nerve supply. When this nerve supply is exhausted the muscles or ligaments which support the parts relax and drop from exhaustion. It requires but little stretch of imagination to understand how this abnormal weight upon the uterus will exhaust the ligamentous supports of that organ and cause it to drop into a state of version or prolapse or both. The primary lesion is not in the uterus, nor in the ligaments which support it, but in the colon. If the primary lesion in the colon is treated and relieved the uterus invariably resumes its normal position and function, allowing, of course, that it is not too permanently bound by adhesions. I treat such cases without touching the uterus, but through the sigmoidoscope I treat the colon and thereby remove the pathology of the uterus with surprising rapidity.

Involution of Uterus and Lesions in Rectum or Colon:—In sub-involution there is always a lack of sympathetic nerve tone. The process of involution is brought about through the action of the sympathetic system of nerves. Any lesion that interferes with the sympathetic nerve supply to the uterus likewise interferes with the process of involution and leaves the uterus in a state of subinvolution following confinement.

It is a well-known fact that the anal canal is more highly endowed with sympathetic nerves than any other part of the body. Any lesion of the anal canal as well

as of the colon may so interfere reflexly as to prevent the normal repair in the uterus.

No case of sub-involution of the uterus has been properly examined until the condition of the rectum and pelvic colon has been fully determined. The rapidity with which the uterus in such cases resumes its normal size and tone after the lesion in the rectum or colon has been cleared up is a constant surprise.

This brings us to the consideration of the Pelvic Neuroses.

There are two extreme types of neurasthenia, one, the maniacal type, is associated with chronic pelvic pain, the second, melancholic type, is associated with prolapse of the pelvic floor. There have been many theories as to the causation of pelvic pain in the absence of definite abnormal physical signs and popular among these are ovarian neuralgia, prolapse of the ovary, supposed adhesions, chronic appendicitis, mobile displacements of the uterus and varicocele of the pampiniform plexus, and the treatment depends upon whether the sufferer is under the observance of a physician or surgeon. Many of these sufferers finally become chronic invalids.

Chronic Pelvic Pain. Chronic pelvic pain, either in front or back, is a frequent complaint which may be entirely due to rectal disease or complicated with other disorders, such as:

1. Nervous (neurasthenia or neuralgia of the rectum.)
2. Structural changes.
   - A. Skeletal:
     - I. Caries of the spine.
     - II. Arthritis of the lumbar spine.
     - III. Sacro-iliac joint subluxation.
   - B. Muscular:
     - I. Tension due to neoplasm, inflammatory tumor, or dilatation of the pelvic bowel.
     - II. Dragging on the mesentary or peritoneum.

The caecum and sigmoid are common sites for distention and are either the cause or effect of chronic constipation which is so frequently seen in those suffering with defects of the neuro-muscular mechanism as a result of trauma, over-work or worry. In a normal well-developed individual constipation is never accompanied by chronic pain; but in those whose nervous systems are unstable, gurglings and discomforts in the right or left iliac fossa are interpreted as pain.

Descent of the pelvic organs, and the resultant dragging on the peritoneal attachments and fascial supports, is the most frequent cause of chronic pelvic pain. The inferior abdominal wall, as the perineum has been termed, may permit of hernial protrusion if its muscular and fascial layers are torn or lack tone. The so-called ligaments of the pelvic viscera (uterus and rectum) will not withstand any tensile stress, and the really supporting structures of the pelvic floor are the levator ani muscle and the pelvic fascia.

It is with this last class that we shall particularly deal and which are invariably associated with more or less maniacal neurasthenia. These patients complain of pain in the right iliac fossa over the caecum, or in the left lower abdomen over the descending colon. In rare instances the pain will follow the line of the transverse colon, or may perhaps be found a little to the right of the umbilicus.

The pain is characteristic, dull gnawing or aching in the right or left side, often passing around to the back or down the thighs, causing numbness or dragging of the leg on the affected side. Bimanual examination will reveal nothing abnormal. The headaches, sleeplessness, weak sinking sensations, palpitation and other usual symptoms of neurasthenia are generally present as are also the facial characteristics, such as expressionless features, backward and downward drawing of the angles of the mouth and marked dilatation of the pupils.

The most common cause of this condition is intestinal stasis, or other intestinal irregularity. If the patient's general nervous system is normal the constipation is seldom associated with pain, but when her nervous system become irritable, or her nervous resistance to pain falls below normal, she is bound to feel pain first in whatever part of her body is most liable to irritation, and that part of the body is the large intestine and caecum. Thus her mind becomes fixed on the situation of this pain, and a vicious circle is formed. The patient worries about the pain, her nervous resistance is still further lowered, the pain becomes gradually worse and she seeks medical advice.

If by chance she has some minor pelvic pathology and an operation be performed, it is quite possible that the mental satisfaction of having something radical done, and the three weeks rest in bed, together with a complete change of environment, will ensure temporary benefit, but it is a mistake to think that the operation of itself could do any good.

Often a careful examination of the pelvis and an assurance that the patient has no pelvic disease, and that the condition is merely due to worry or nervousness or constipation will make the patient feel quite well. Other patients may require a mixture of potassium bromide and magnesium sulphate, together with fresh air and outdoor exercise, telling them not to become fatigued or tired and to stop worrying. This often is all that is required.

Of course, when cases of chronic pelvic pain are associated with definite physical signs, such as in pyosalpinx, there is generally no trouble in associating the pain with the physical signs, but such cases form only a small percentage of patients. The largest percentage of patients who complain of chronic pelvic pain generally have nothing abnormal in the pelvis at all, or perhaps some minor condition, such as a mobile backward displacement of the uterus which is frequently wrongly regarded as a cause of pain.

Hauch[1] explains how pelvic neuralgia and neuritis are liable to confuse the clinical picture when they have no direct connection with the primary cause. The patient winces with pressure on tender points in the course of the nerve. She must not be asked whether she feels pain at these points; her involuntary reaction is more instructive. The case should not be labeled "hysteria" until all of the possible tender points have been investigated. Organic changes in the genital organs are generally responsible for the neuralgia or neuritis and the latter may persist after the cure or removal of the pathologic tube, ovary, or uterus responsible for it. He recommends rest in bed, local heat and thirty to forty-five minutes of flushing the vagina with 30-40 liters of water at 40-45 C. At some spas 80 liters are used for irrigation. The patient lies in a full warm bath. He remarks that the beneefit reported from diathermy is probably due in large part to the effect on the neuralgia or neuritis element. The high frequency current has given very encouraging results in his hands (seven cured and three much improved in ten cases completing the course). The neuralgia may recur months later but yields readily to renewed treatment.

Diagnostic blunders are strikingly frequent in cases diagnosed as sciatica. Physicians are constantly referring to the neurologist patients with the diagnosis of sciatica when in reality the pain in the sciatic distribution is due to disease of the pelvic bones or vertebrae and sacro-iliac joints, or to intermittent limping, pelvic adhe-

sions following pelvic and abdominal disease or operation, disease of the ureter, myoma, and rectal or prostatic cancer.

Lordosis, when extreme, not infrequently causes pressure upon the genitocrural nerve and produces great soreness and pain along the distribution of the nerve, even into the head of the penis or into the labia majora. The primary cause of these abnormalities is commonly found in tuberculous or syphilitic inheritance and faulty postural habit in childhood. Of course the condition is favored by bad ventilation, insufficient sunlight, infections and especially by a diet poor in vitamins and by defective nutrition.

Osteoarthritis is to be found in the lumbar or sacral region and is of varied etiology: infections, tuberculosis, rheumatism, syphilis. Tuberculosis of the bone may develop either in the dorsal or lumbar region. These diseases of the bone are not difficult to diagnose with the local tenderness, pain, deformity, rigidity of muscle and possibly pus with constitutional symptoms.

Loose sacroiliac joints, from impaired health and general weakness of supports, sometimes cause much backache. The location pain and the systemic condition of the patient make the diagnosis clear. A very obstinate form of neuralgia may become fixed in the coccyx and be extremely troublesome and intractable for years.

Of course lumbago is always with us; myositis, fibrositis, usually due to strain; traumatism in a patient with weakened structures and pain habit. Poor kidney function and other toxemias, especially those coming from the colon, often complicate this condition.

Syphilis of the spine and cord and the various cerebrospinal inflammations with pain, tenderness, girdle and garter sensations, exaggerated or lost reflexes, spastic or flaccid sphincter muscles, ataxia, Romberg, Kernig's sign and other symptomatology are easy enough to differentiate.

Hysteria and other neuroses may lead to general hyperesthesia of the whole spinal column with great tenderness and stiffness and extreme nervousness with many reflex symptoms. Congestion and inflammation of the pelvic organs may cause agonizing aching pain in the sacral region, in some cases the fourth and fifth lumbar being involved. Rectal disease frequently causes reflex aching in the lower spine and pathology of the rectum should be sought in such suffering.

So-called "railway spine" is largely a mental traumatism, usually mingled with apprehension of grave disease and anxiety concerning compensation. But the suffering is none the lest real. There is tenderness, stiffness and much radiated reflex suffering with serious distress of nervous character. It requires the most ingenious diagnostic skill to separate the real from the imaginary and to give these patients and their employers justice.

Renal calculus may cause pain located very close to the spine in the region of the kidneys, but the pain is more likely to take a downward direction along the ureter toward the bladder and generative organs. A floating kidney may pull on its attachments and create backache.

Other diseases of the kidneys, especially where there is severe inflammation or increased size, stretching the capsule, may cause pain in the back.

Most interesting and instructive of all pains related to the spine are those that depend upon the cord reflexes. All the thoracic, abdominal and pelvic organs and many others, especially the endocrines, have their spinal cord reflex centers, and the association in the normal functioning and in disease is very intimate. Nothing is more clearly demonstrated in the whole field of medicine than this interlocking arrangement of the cord and its reflex centers with the organs and their work, especially in relation to the great somatic mind that controls organic life, moving unnoticed in the mysterious realm of the unconscious until pathology interrupts and disturbs the smooth running relationship. The spinal cord and its reflex centers and the great sympathetic nervous system associated with the vital organs perform even more remarkable work than the dome of thought itself in the vast field of mind and imagination.

When disease appears and the functions are upset, then the close association is revealed by signs and symptoms.

Fatigue in these patients is often overlooked in our diagnostic study. Fatigue may be produced with undue rapidity by moderate muscular exertion and by mental effort whenever there is the leukocytosis of a focal infection. Muscular strength is only lessened in the severe degrees of nervous weakness, but the power of sustained effort is generally reduced. Fatigue is not only sooner felt, but is often a more unpleasant sensation than the fatigue of health, and whatever pain or discomfort to which the sufferer is liable is apt to be induced. Often talking may cause a feeling of weariness and pelvic weight. Many sufferers habitually talk in a low voice, as if every sentence involved an exertion almost beyond their strength. A sense of muscular inertia and powerlessness is very frequent, especially in the earlier part of the day, when there is no real lack of strength. The least effort, indeed, may seem beyond their power. The frequency with which the pelvic surgeon is confronted with symptoms of neurasthenia makes it imperative that he have a clear conception of the relationship of these nervous phenomena to the conditions which he is called upon to treat. It takes more than a few "neurasthenic symptoms" to constitute the clinical entity neurasthenia.

The colonic reflex centers are from the ninth dorsal to the second lumbar. The superficial spinal nerves will be found hypersensitive at these points according to the part of the colon involved. Ptosis, stasis, and especially spasticity cause much suffering in this way. The spastic colon will invariably send is sensations to the cord centers and they are reflected back in pain in the hepatic and splenic flexures, and on either side of the umbilicus; and into the chest to the heart and occasionally to the brain, disturbing the mind; and to other points according to the location of the most important spasticity. Many other spine and organ reflex might be mentioned.

The spinal cord centers of the endocrine glands are of vast importance in diagnosis; the pituitary in the midcervical region; the thyroparathyroids about the seventh cervical; the adrenals, the liver and pancreas, the eleventh dorsal to the second lumbar; and the gonads, the lower lumbar and sacral region.

Interlacing fibers form an intimate connection between the spinal cord with its important reflex centers and the great sympathetic system, linking up in the closest relationship these systems with the organs of the chest, the abdomen, the pelvis, and all the endocrine glands. These centers and relationships are now fairly well understood. With some knowledge of these facts in the normal, it is easy to see how profoundly pathology of any organ might upset natural law and give rise to important reflex symptoms, and how prompt treatment might set things right.

Two great influences are constantly operating in the spine in disease, both easy enough to discover in diagnostic study; one is disease of the bone or bad postural attitude which may compress the nerves, cause pain and interfere with the function of organs; and the other is organic disease which may send powerful messages to the spinal reflex centers, producing changes with contraction of muscle and reflex disturbance of various organs.

Extra-rectal disturbances may excite rectal expression by:

1. Pressure of some other pelvic organ on the rectum.
2. Lymphatic extension of chronic inflammation from the various pelvic viscera.
3. Indirect pressure through the blood column, as in cardiac, hepatic or splenic disease.
4. Continued coughing due to respiratory or cardiac disease.
5. Undue straining due to urethral stricture, vesical calculus, or cystitis.

In any of these conditions the primary pathology may be extrarectal, but very positive disturbances may be set up within the rectum, such as proctitis, ulcerations of the rectal mucosa, hemorrhoids, fistula and fibrous stricture.

Acute infections influence the nervous system more noticeably, with greater constancy, and at times, more severely, than perhaps any other group of extraneous diseases. It might naturally be supposed that the more virulent the infection, the greater would be the nervous reaction; but such is not, in fact, the case. Many otherwise violent infections often run their course with but relatively slight neuromental disturbance, while other much milder invasions impress themselves profoundly on the nervous system. The nature of the infection and its toxins seems to have something to do with it. Certain types of infection appear to have a special influence upon the nervous system, irrespective of their inherent virulence.

This, however, is not the only determining factor, for the same infection varies in this respect in different individuals, a severe attack producing but little nervous reaction in one patient while a comparatively light attack works havoc to the nervous system in another patient. Something, therefore, must depend upon the nervous constitution and susceptibilty of the individual. Moreover, this does not work out, as might be expected, in accordance with the nervous stability of the individual in health; for experience shows that, as a rule, robust persons with steady nerves suffer most profoundly from the nervous effects of acute infections, while the so-called neurotic patient usually gets off very lightly on this score.

Two prime elements enter into the causation of the nervous disturbance, namely the toxic and the thermic. It is due, partly to the poisonous effects of the circulating toxins and partly to the net influence of that group of metabolic processes within the body which go to make up what we term "fever," of which a rise in temperature is the characteristic phenomenon. The toxic element is no doubt a mixture of bacterial products and body products; and indeed, it is not unlikely that the difference between the various infections in their influence upon the nervous system may be summed up in the difference which they exhibit in the elaboration and absorption of so-called "secondary" products of infection. The precise mode of influence of the thermic element is not well understood; the entire phenomenon of fever has never been satisfactorily studied; but there is plenty of evidence that it is a genuinely active factor in producing the nervous symptoms. In general it may be said that the thermic influence upon the nervous system is that of an irritant or excitant, while that of the toxic element is first irritant, and, beyond a certain degree, depressive.

Anal and rectal lesions exercise a profound toxic effect upon the nervous system, in common with all other acute infections. These toxic disturbances are often especially severe in gastrointestinal infections for two reasons: (1) the absorption of toxins from the intestinal tract is very rapid, and (2) practically every infectious disease of this region is attended with marked secondary sepsis.

Treatment: Pain must be relieved, for it depresses the tone of the nervous system, and has a deleterious effect on the appetite and sleep. Long continued pain wears down the nerve resistance of the patient. Preparations of the barbital group all serve a useful purpose here but must not be used for long.

Diminished excretion of urea calls for administration of weekly doses of 5 grains of blue mass together with the daily use of Ac. Sodii Phosphate grains xv, and Sodii Benzoas, grains 10 in a tumbler of water after each meal. The diet must be directed to the use of vegetables and fruits with the exclusion of meats.

Neurasthenic individuals must avoid alcohol, tea and coffee and devote much time to the open air. In severe cases absolute rest in bed is essential. Reading and mental exertion should be avoided.

Constipation due to atony and relaxation is to be watched for and combated with strychnine, anterior pituitary, suprarenal cortex and the glycerophosphates.

If we will examine the rectum carefully we will often learn that infection of the pelvic bowel is the cause of vague leg ache extending down to the heel and which has been mistaken for sciatica; also distressing indigestion and backache or lower pelvic pain and annoying heaviness in the perineum.

The surgical relief of anal or rectal disease will restore normal rectal sensation and regular evacuations.

30 North Michigan Boulevard.

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Association of Private Hospitals of Greater New York

On November 15th a meeting was held at the New York Physician's Club for the purpose of organizing an Association of Private Hospitals of Greater New York. This was the culmination of several previous meetings at which various standards and requirements for membership had been discussed. Representatives of seventeen private hospitals which had been invited to join were present and all agreed to sign a pledge to improve the scientific efficiency of their hospitals, to abolish fee-splitting among their doctors and to absolutely rule against commissions being paid to physicians patronizing their hospitals. An attempt will be made later on to standardize smaller non-member institutions and thus enable them to give better service.

The following private hospitals were represented: Adelphi Sanitarium, Brooklyn; Boulevard Hospital, Astoria; Crown Heights Hospital, Brooklyn; Fitch Sanitarium, Bronx; Madison Hospital, New York; Madison Park Hospital, Brooklyn; Manhattan General Hospital, New York; Midwood Sanitarium, Brooklyn; Mount Morris Park Hospital, New York; Murray Hill Hospital, New York; Park East Hospital, New York; Park West Hospital, New York; Shore Road Hospital, Brooklyn; University Heights Hospital, Bronx; Wadsworth Hospital, New York; Westchester Square Hospital, Bronx; Wickersham Hospital, New York.

The following officers were elected to serve until October, 1933: Dr. Harold Hays, President; Dr. Charles W. Fitch, President, Fitch Sanitarium, Vice-President; Dr. Albert R. Fritz, President, Madison Park Hospital, Vice-President; Dr. Philip Schoenveld, President, Boulevard Hospital, Vice-President and Dr. G. E. Browning, President, Wickersham Hospital, Secretary-Treasurer. Mr. Oscar R. Gottfried who was instrumental in organizing the Association was elected Executive Director. The offices of the Association are at 256 Fifth Avenue, New York City.

It will be the aim of the Association to conform to the rulings of the American College of Surgeons. Two of the members are now recognized by that body. The Association intends to publish a monthly magazine which will be widely circulated and number among its readers every physician in Greater New York.

Recent Observations in Serum Disease

Luke W. Hunt, Chicago (*Journal A. M. A.*, Sept. 10, 1932), studied the records of serum disease as observed in the Durand Hospital since its establishment, nineteen years ago, and discuses in a brief manner some of the pertinent questions. Serum disease occurred in 28.1 per cent of 2,859 patients who received diphtheria antitoxin in 22.7 per cent of 858 patients who received scarlet fever antitoxin, and in 81.8 per cent of 55 patients who received antimeningococcus serum.

Fractures of the Tibial Tuberosities

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A RARE type of fracture of the lower extremity is that involving the tuberosities or condyles of the tibia. In scanning the literature for reports dealing with fractures over this proximal region of the tibia, one is impressed with the paucity of cases reported, as a total of less than three hundred has been tabulated to date, and of this number foreign surgeons have provided, by and large, the overwhelming proportion.

In this country H. G. Lee of the MacAusland clinic, of Boston, has recently published a series of twenty-one cases.

The foregoing tends to show, with less than three hundred cases all told, how infrequent fractures of the tibial tuberosities must be. But, on the contrary, I have seen any number that have occurred and have been labeled in the diagnosis simply "fracture of the proximal or upper third of the tibia", even after *x*-ray interpretation. For practical purposes this has sufficed and accordingly, in this paper, I have attempted to bring out its relative frequency and a plea for accurate anatomical designation. Aside from my personal cases, several traumatic surgeons have given their follow-up records and many of these fractures were brought to light only after close *x*-ray inspection, where clinically no accurate diagnosis was specified.

A confusing point in regard to the diagnosis is the proximity of these condyles to the knee-joint and the frequent association of knee-joint pathology with these fractures. The knee condition is usually given the major attention and these condyle fractures are relegated to a secondary place on the diagnostic list. In many of these cases where a plaster cast was the sole therapy, the condyle affection would heal by means of the cast, unless it was unusually severe. In many instances such as these do we overlook these fractures.

The ever-increasing automobile traffic and machine usage are great factors in the causation of tuberosity fractures. Since the report of the first case there has been a span of eighty years and our modern means of locomotion should certainly cause more traumata of this type than the literature would indicate. The majority of the cases that I have seen were found among athletes and workers who were perched aloft, such as painters and riveters.

In the fractures due to falls from a height, the individual lands either with the leg in flexion and abduction or with the leg extended, producing an indirect type of break, force being transmitted through the condyles of the femur to the tuberosities.

The direct type of fracture results from blows by a heavy object, automobile impacts, kicks by others in athletics or bumping against any obstacle. In this injury the fracture results from the force being exerted at right angles to the long axis of the tibia, with the factor of body weight much less in degree and comparatively negligible. The external tuberosity is more often involved because the internal tuberosity has the other leg to shield it.

The external tuberosity has been most often involved in my experience. This may be contrary to the conception of Wagner of Germany, who asserted that the internal condyle usually bore the brunt of the impact due to the fact that it was closer to the weight-bearing line. I believe, however, that it is reasonable to assume there is often a tendency to abduct the leg after violence is applied to it and this would account for the greater frequency of injury of the external tuberosity.

Whatever the agent producing the trauma, there is practically always a lateral strain thrown onto the knee by the violent abduction of the leg and the effect is a fragmentation of the articular margin. The femoral condyles may be driven into the tibia causing impaction or a vertical displacement of a tuberosity. Comminution may be a sequence to this and involve the inner and outer margins of the tibial plateau; or both tuberosities may be obliquely broken. The shaft of the bone may be pushed upward between the fragments with lateral dislocation and shortening ensuing. With the resulting bony deformity, transverse displacement of fragments, or depression of the tibial plateau, there is irregular weight-bearing and distortion of the carrying angle and joint axis, producing either a genu varum or genu valgum. Naturally, the strain on the articular surfaces causes an arthritis.

Anatomy—Among children there is a confusion between the tubercle and the tuberosities. The tubercle generally grows down as a beak-like process from the head of the tibia or it may ossify from a separate nucleus which appears about the age of twelve and joins the shaft at fourteen. In the young, the tubercle may rarely be avulsed by the violent contraction of the quadriceps. This causes loss of the power of extension and displacement of the tubercle, which can be moved upon the underlying bone with the sound of crepitus.

Each tuberosity or condyle is provided on its proximal aspect with an articular surface which supports the corresponding condyle of the femur, as well as the interposed meniscus. The medial is the larger condyle, while the lateral is rounder. Between the two condylar surfaces the tibia is elevated in the centre to form an eminence which consists of two inter-condyloid tubercles separated by an oblique groove, in the anterior part of which is found the anterior cruciate ligament.

Diagnosis—Knee-joint conditions should be ruled out, especially in cases with much swelling.

1. Semilunar Cartilages—tenderness over cartilage, synovitis and locking occur.

2. Crucial ligament injuries—there is more rotation of the knee and anterior and posterior motions are free.

3. Fracture of tibial spine—there is obstruction to full extension.

In fractures of the tuberosities the history of trauma is of first importance. A prominent swelling is found over the tibia, which also appears widened. There is a greater amount of lateral motion, causing genu valgum or varum. There may be crepitus.

Disability depends on whether the internal condyle is involved alone, or the condition is bilateral, when it is complete. If the internal member is injured there is great disability owing to proximity of the weight-bearing line.

Many cases will require *x*-ray or the fluoroscope to clinch the diagnosis and a careful Roentgen ray study

should be made in every case as many of these fractures are passed by after only a cursory survey.

Prognosis—This varies, of course, with the nature of the lesion, adequate reduction and whether or not the knee-joint was in any way affected. In the young there is usually a return to normal function, but after middle life, in all neighboring joint traumata, we must be on guard for diminished function and changes due to arthritis.

Treatment—Reduction should be done under the fluoroscope by means of traction and manipulation.

The various methods of treatment are legion in the hands of different operators. Scudder uses a Steinman pin through the os calcis or skin traction in cases hard to reduce. He also applies bone clamps to the tibia. Wheeler uses a Thomas splint for fixation. Böhler, of Vienna, employs pins and pressure to elevate the table of the tibia. Klapp draws the fragments together with a wire loop containing weights, producing a compression and extension effect.

My preference, if an open operation is not indicated, is to obtain alignment and reposition of the displaced fragments. For slight deformity a plaster cast may be used. Other means of reduction include the use of a padded mallet to pound and remould the fragments into position and then a cast, overcorrecting the deformity and the position of the knee.

For wide displacement of the fragments and in cases having double oblique fractures an open operation is obviously necessary, and a wire bolt is inserted and held by a nut.

In all cases immobilization should be kept up for at least four weeks. Motion is started at the sixth week with massage over the fracture site and also over the quadriceps muscle. The shoe should be elevated on the side opposite to the fractured condyle to relieve strain and a walking caliper is also advised.

Conclusions:

1. A review of fractures of the tibial tuberosities is presented.
2. This type of fracture is considered rare, but many cases are not accurately diagnosed and are obscured by conditions in the knee-joint.
3. More attention should be given to *x*-ray and stereoscopic films to avoid overlooking this lesion.
4. Conservative treatment offers good results.

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Contraindications to Cesarean Section

Willard R. Cooke, Galveston Texas (*Journal A. M. A.*, Nov. 26, 1932), believes that it is apparent to the careful student of the problem of cesarean section that a high percentage of the postoperative deaths occur in cases in which contraindications to the operation are present. In other words, the mortality following cesarean section would be greatly reduced if the contraindications were generally recognized and the operation avoided when contraindicated. Careful students of the problem universally recognize as contraindications: (1) the existence of infection, actual or potential, in the genital tract; (2) the lack of a valid indication for the operation, and, almost universally, (3) the convulsive stage of eclampsia. Pain, fatigue, fear or the safety of the child must rarely be considered as excuses for cesarean section. The properly conducted test of labor, analgesia and an adequate allowance of time will eliminate most of the supposedly necessary sections. Even in unskilled hands the procedures alternative to cesarean section carry a total maternal mortality risk from shock, hemorrhage and infection less than that of cesarean section performed in the presence of contraindications.

L. I. News and Notes

ASSOCIATED PHYSICIANS OF LONG ISLAND

The January Meeting

The winter meeting of the Associated Physicians of Long Island will be due in January, and falling in the year 1933 it will usher in the thirty-fifth year of the society. Therefore, the January meeting will not only follow the custom of the past in having an afternoon of clinical education in one of the large hospitals of Brooklyn, and a dinner in the evening in one of the leading clubs of Brooklyn, but there will be incorporated in the program something of interest to recall the founding of the organization.

The date selected for this commemorative meeting is Saturday, Jan. 28, 1933, and two notices will be sent to each member as usual. The staff of the Brooklyn Hospital, on De Kalb Avenue, Brooklyn, have graciously consented to be hosts to the society at an afternoon session of clinical instruction which will afford the physicians of Long Island an opportunity to inspect the hospital and to become acquainted with the fine work which is being done there. There has been much favorable comment in the past meetings when the program consisted of many short, snappy, to-the-point talks on a variety of medical subjects, rather than a lengthy symposium on one topic. Believing that the variety will please a majority of members, the committees are planning to present the clinical program in that manner.

In retrospect over the past year, under the presidentship of Dr. Jacques Rushmore, attendance at the meetings has increased in numbers and enthusiasm, and there has been evidence that the thirty-fifth year of the society will be one of renewed interest for the old members and new members will be welcomed. The summer meeting was in the form of a clam-bake at Karatsonyi's Hotel in Glen Head, Long Island, and was the scene of a revival of comradery which in the past was the great feature of the association. The dedication of this meeting to Dr. Hancock was largely responsible for the success of the meeting. The autumn meeting was quite an innovation, for the members of the society were guests of the United States Army at the aviation field, Mitchell Field. The inspection of the field and the planes and the symposium on medical aviation by army experts were well worth while, and the dinner in the Salisbury Club, Westbury, with the medical army officers as our guests, was a fitting climax to a day of comradeship.

Dr. Rushmore fortunately is chairman of the library committee of the Kings County Medical Socitay and has worked hard this past year making the library service available to the physicians of Long Island. This has been made the major project for the past year and the society has perfected a plan of supplying the books requested in a unique fibre carton which is used to return the books to the librarian, Mr. Frankenberger.

Members of the Associated Physicians of Long Island are reminded that the next meeting, Jan. 28, 1933, in Brooklyn, will be the occasion for electing officers for the next year. The nominating committee are as follows: Dr. Truslow of Kings; Dr. Voltz of Queens; Dr. Malcolm of Nasau; and Dr. Ross of Suffolk.

Attention, Members of the Associated Physicians of Long Island!

This JOURNAL is welcomed by every one of us. It is our only independent mouthpiece. We have now been united for thirty-five years. Our JOURNAL has been a strong tie.

The Associated Physicians of Long Island has meant an unique organization, interrelated, yet the only one, independent. At each meeting there are most cordial greetings and the members who are absent are personally inquired about, are missed.

Your Executive Committee has decided to present at the January Meeting a motion to reduce the annual charges from $5 to $3, including the JOURNAL. This will leave very little for Society uses. Three members will furnish only as much as one formerly did. But the economic conditions demand this. We want every member to continue active and this should make that possible.

You all want, wish, and need the JOURNAL. For $.50 a year more you can carry on your membership. Let us put through this motion in January, and let us show the Executive Committee that they are acting with good judgment, by sending in our dues for 1933 promptly.

JOHN L. BAUER.

Laxatives

Sometimes six or seven stewed prunes taken daily will make powerful cathartics unnecessary. Add to this, ten ounces of orange juice daily.

Cancer

Department Edited by JOHN M. SWAN, M.D., F.A.C.P.

EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

The Treatment of Cancer of the Mammary Gland

THE objective to be attained in the treatment of cancer in any part of the body is to discover and destroy the growth completely before metastasis has occurred. Whether this is easy, as indicated by Scott[25], who says: "When local cancer is treated by the most dependable method of complete removal or total destruction *in situ*, it is one of the most easily cured diseases with which the surgeon has to deal," or whether it is highly problematical or nearly hopeless, as indicated by Lewis and Reinhoff[27], who say that "the conclusion that the large majority of patients with carcinoma of the breast will succumb to the disease is unquestionably warranted," only time and constant study will decide. At all events, there are four methods by which an attempt may be made totally to destroy malignant growths of the breast: (1) by surgery alone; (2) by Röntgen irradiation alone; (3) by radium irradiation alone; (4) by a combination of these methods.

In the last five years the majority of authors have employed a combination of surgery and irradiation.

Papers dealing with the surgical treatment of breast cancer have been contributed by Erskine[1], Ducuing[2], Harrington[5], Mason and Rose[18], Ogilvie[21], Himmelmann and Lehmann[15], Lewis and Reinhoff[27] and Adair[29].

Erskine[1] says that the prospect of achieving a surgical cure is favorable in from 65 to 90 percent of cases in which the tumor is confined to the breast and that no cure can be looked for in from 80 to 90 percent of cases in which axillary metastases exist.

DUCUING[2], in the 106 cases referred to in a previous review in this department (MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL, June, 1932, 60:187), found 17.9 percent living at the end of the fifth year, and after the fifth year only 8.08 percent free from recurrence. According to this author there are marked advantages in surgery; it prevents ulceration, renders the death of the patients less painful, and simplifies the duties of those caring for her.

Harrington[5] says the best surgical results are obtained from primary radical operation in cases without lymphatic involvement. In his analysis of 2,083 cases of breast carcinoma 67.44 percent of the patients were living after five years and 52.94 percent after ten years. If operation is delayed until signs of malignancy are obvious it is too late to expect more than a palliative result. His experience indicates that Röntgen irradiation has not been of great value as an auxiliary to operative treatment and that it has little effect on the malignant tissue remaining after operation.

Himmelmann and Lehmann[15] report 271 cases in which the results of radical surgery alone were better than surgery followed by irradiation, which they do not favor.

Ogilvie[21] reports 129 cases operated on between 1900 and 1924, in 121 of which radical amputation was done. Sixty-one, or 47.28 percent, of these patients were alive and well in 1932.

LEWIS and Reinhoff[27] advocate a thoroughly radical removal in all cases, whether early or late, regardless of the extent of the disease. So long as it remains confined within possible operative limits it is incumbent on the surgeon to perform the most radical and meticulous operative procedure. This opinion is based on the fact that it is impossible to determine the exact limits to which the disease has extended and that it is possible that it may remain a localized process. They report 950 cases operated upon between 1889 and 1931.

Adair[29] says: "As long as the disease is confined to the breast I think there is at present no more effective method of cure than that of radical mastectomy."

In 1929 Greenough[30], submitting the report of a committee appointed by the American College of Surgeons, said: "The addition of preoperative or postoperative prophylactic (Röntgen)ray treatment to the radical operation gave no greater proportion of five-year successful results. The studies of the committee, based on the analysis of 536 cases from nine different hospitals treated in 1918, 1919 and 1920, recorded and classified in a uniform manner on a minimum five-year end result basis and supported by pathological evidence of the diagnosis of cancer, showed 57.0 percent of success in early favorable cases without axillary involvement.

PAPERS dealing with the advantage of the diathermy knife or the cautery knife have been contributed by Warwick[11], Westermark[12], and Mason and Rose[18]. Cheatle and Cutler (26, p. 320) say: "Endothermy is an ideal method to adopt in order to diminish hemorrhage and whenever possible we now employ it." In regard to the operative technique they say that there are three chief objects to be attained in the surgical treatment of mammary carcinoma: (1) Complete removal of the disease. (2) Avoidance of all means by which malignant cells may be transplanted in the wound or pressed from accessible to inaccessible parts. All parts should be removed in a state of continuity. (3) Avoidance of shock.

I found no papers in which treatment with Röntgen irradiation alone was advocated.

Treatment with radium alone is advocated by Keynes[8], Soiland[22], and Keynes[24].

IN the first paper Keynes says that treatment with radium needles is superior to surgical treatment. He reported 90 cases treated since 1924. He advocated small dosage, up to 100 mg., and an exposure of seven days or more. The needles were implanted in the primary growth and in the lymphatic drainage area, including the pectoral area, the axilla, the supra and infraclavicular regions and the intercostal spaces. In the second paper[24] he reports 171 cases treated over a period of seven years; but in this paper he says that radium treatment should not supplant surgery. For advanced or inoperable tumors it is the treatment of choice. In the intermediate operable tumors radical surgery is seldom necessary and it is justifiable in the majority of cases

to use radium alone or in combination with a modified operation. For the earliest and smallest tumors the radical operation is unnecessary because excellent results may be obtained with radium alone or with radium combined with the most conservative surgery. He points out that radium may be a highly dangerous and inefficient weapon if used with insufficient care or knowledge. On the other hand, with proper care and knowledge, interstitial radium treatment has no serious dangers.

Lee[3] is of the opinion that radium is a more effective agent than Röntgen rays. He obtained the best results by implantation in small tumors in old women.

The majority of writers advocate the treatment of mammary carcinoma with a combination of surgery and irradiation. Irradiation may be used before the surgical intervention and after the operation.

LEE[3] reports 355 cases and says that irradiation, either alone or combined with radical surgery, gives a higher percentage of good five-year results than radical surgery alone. Preoperative irradiation, in his opinion, adds to the figures of percentage of satisfactory five-year results and post-operative irradiation has increased the length of life. In inoperable carcinoma of the breast irradiation gives relief from pain, healing of superficial carcinomatous ulcers, improvement in general condition and prolongation of life.

Webster[4], in a report of 600 cases, says that irradiation renders cases on the border line of operability operable, and sterilizes the operation area so that recurrences are less likely to develop. He says that both in the prevention and cure of cancer of the breast irradiation could be employed with advantage much more extensively than it is at present. "It was once true that the only chance for the patient with carcinoma of the breast was early operation; but it is true no longer. The ideal method for all new patients with malignant disease is to be studied by surgeon and radiologist in consultation."

Smith and Bartlett[6] report 234 cases with 36.9 percent living at the end of five years and 25.7 percent at the end of seven years. After postoperative irradiation the results were uniformly better than when surgery alone was employed.

Brutin[10] is of the opinion that if Röntgen irradiation is employed before and after operation the prognosis is more favorable than in cases in which surgery alone is employed.

Warwick[11] advocates the combination of radium irradiation and surgery.

WESTERMARK[12] advocates the use of surgery and irradiation and publishes the following figures: The surgical statistics of Sweden show a five-year freedom from symptoms in 29.3 percent of cases treated with irradiation after operation, in 40.0 percent of those treated before operation. in 28.6 percent of those operated with the endothermy knife and in 9.8 percent of cases with recurrence or metastasis.

Trout and Peterson[13] report 341 cases treated with irradiation and surgery. Their results have improved since the employment of postoperative irradiation. They advocate placing radium tubes under the skin at the time of operation and following this with Röntgen irradiation. They report 152 cases treated with surgery alone with 22.0 percent alive and apparently free from recurrence or metastasis at the end of five years; eighty cases treated with surgery and radium and 30.0 percent living without recurrence or metastasis at the end of five years; eighteen cases treated with radical surgery, radium and Röntgen irradiation and 55.0 percent living without recurrence or metastasis at the end of five years.

Bevan[14] advises postoperative Röntgen irradiation.

Martindale[16] advises postoperative irradiation with Röntgen rays and radium.

Levin[17] advocates preoperative irradiation and says that it may change an inoperable carcinoma into an operable one. Inoperable ulcerated carcinoma may be considerably improved and the ulcer healed after radium irradiation.

MORAN[19] says that adenocarcinomata are not suitable for irradiation; but that medullary or encephaloid carcinomata and sarcomata are suitable; and that acute carcinomata should be let alone. Scirrhus carcinoma should be treated with surgery followed by irradiation. Cancer *en cuirasse* and *peau d'orange* do not respond well to irradiation. He has found that recurrences of scirrhus carcinomata are more radio-sensitive than the original growth. He believes that fibrocarcinoma following chronic metastasis should be treated with surgery followed by radium applied by the interstitial method or by high voltage Röntgen irradiation. Mucoid carcinoma should be treated with surgery. The thin woman with small breasts responds better to irradiation than the fat woman with large breasts. Very young patients do badly.

Lyman[20] in describing the technique of preoperative and of postoperative irradiation says that preoperative irradiation should be relatively intense, should be delivered within a comparatively short period of time, should include the entire breast and the related lymphatic area. should be of such a character as not to damage the normal tissues or to interfere with the healing of the operation wound, and that it should precede operation by ten to thirty days.

Postoperative irradiation, on the other hand. should begin as soon as the operation wound has healed. The doses should be a little less massive and spaced over a longer period than the preoperative dose. Divided doses should follow the more intense applications, should be administered for a prolonged period, and should include wide areas of the body.

LEVIN[23] contributes a paper on the coordination between surgery and irradiation, both with Röntgen rays and radium. In cases in which there is metastasis to the axillary and the supra and infraclavicular lymphnodes, surgery should be the first step and it should be followed by immediate active irradiation. In ulcerated growths, which are not adherent to the chest wall, irradiation should precede and follow surgery; but palliation is all that may be expected in this class of case. In cases in which the growth is attached to the chest wall and in cases of local recurrence after radical mastectomy irradiation should be the first step. If the tumor then becomes movable surgery may follow. In cases with metastasis to the lungs irradiation is the only method which is at all hopeful. Cases of metastasis to the skeleton, to the liver, or with generalized carcinosis are beyond aid by any form of treatment.

Lee, Pack, Quimby and Stewart[28] advocate preoperative irradiation, either with Röntgen rays or with interstitial radium. They have seen no evidence of dissemination of the growths following interstitial irradiation with radium. The following method is advocated in a case of primary operable carcinoma of the breast: external irradiation (Röntgen rays) followed in three weeks with interstitial irradiation (radium). followed in six weeks by radical mastectomy. The axilla is subjected to preoperative irradiation with Röntgen rays or

radium element pack, followed by interstitial gold-filtered radon distributed along the lymphnode-bearing areas.

ADAIR[29] reports 199 cases of primary operable carcinoma of the breast. Of thirty-seven treated with irradiation alone 32.4 percent were living after five or more years; of 137 treated with combined surgery and irradiation 37.95 percent were living after five or more years. He believes that the combination of surgery and irradiation gives better results than surgery alone. In cases in which surgery is contraindicated, combined external (Röntgen ray) and interstitial (radium) irradiation is the most efficient method.

From a review of the papers and reports above studied it would seem to us that the following plan should be followed in a case of suspicious breast tumor.

1. If the lesion is of questionable malignancy the tumor should be removed by a non-mutilating operation and examined histologically, by the frozen section method. If the report indicates that it is a benign tumor the paraffin method should follow. If the result of *this* study indicates that the growth is benign no further treatment is necessary.

2. If the growth is malignant a radical breast amputation should be done and this should be followed with Röntgen irradiation given by a trained and registered röntgenologist with an equipment of at least 200 kilovolts capacity.

3. If the growth is clinically malignant preoperative irradiation should be employed. This should be followed by radical surgery and radical surgery by postoperative Röntgen irradiation.

4. Inoperable carcinoma and metastasis should be treated with Röntgen irradiation by a trained roentgenologist with an equipment of at least 200 kilovolts capacity.

5. There is not yet sufficient evidence at hand to warrant advocacy of radium irradiation except in especially equipped institutions and by specially trained medical men.

6. It seems as though the endotherm knife might prove to be a better instrument to employ in surgery than the instrument that Deaver used to call "the sterilized scalpel."

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Fascia Plication in the Repair of Inguinal Hernia

(Concluded from page 8)

local anesthesia cannot be used in fat patients, I think spinal anesthesia in a good many instances may be of considerable value.

"Fascial sutures are of distinct value in certain types of cases where there is a big gap which we cannot close without tension, and in these instances we can use parallel sutures of fascia from the rectus itself, autogenous sutures, taken from the fascia lata, as in the Galli operation, or prepared fascial sutures which are readily procurable. In the use of fascial sutures, however, still greater precaution must be taken to avoid infection."

DR. F. G. MEYNEN: "About the point of infection, I am glad that Dr. Davidson brought out the fact that infections are apt to be higher in City Hospital cases than in private hospitals, as my statement, which Dr. Dealy had good reason to question, that 15 per cent of all hernias become infected, is based on a careful analysis of 200 consecutive cases of inguinal hernia in Bellevue Hospital and is therefore possibly somewhat higher than average. I hope, however, that this will not tend to detract from the important point I tried to bring out about instilling 2 per cent aqueous mercurochrome solution into the wound before closing. We had no infections in our series and we believe this to be a very important procedure. We have never used iodine to sterilize the skin in any type of surgical case for the past six years and have found the mercurochrome-alcohol-acetone solution to possess all the advantages of iodine with none of the disadvantages, particularly where the scrotum and similar sensitive skin areas are involved. Furthermore, it is not good technique to instill aqueous mercurochrome solution into a wound when iodine has previously been used on the adjacent skin.

"The method Dr. Dealy has described for using muscle as well as fascia is very ingenious but I still feel that the use of muscle tissue in any case is not only an unnecessary but probably a disadvantageous procedure.

"Dr. Davidson emphasizes the point that the method I have described might not be applicable to cases where the fascia was attenuated around the external ring. As mentioned in the paper, I encountered only two such cases and solved them easily by the use of prepared fascial strips, rather than by relying on the interposition of muscle tissue. We cannot emphasize too strongly the fact that any attempt to suture muscle tissues to Poupart's ligament is a procedure of questionable value and one which defeats the original purpose of the operation.

"The point brought out by Dr. Barber about interrupted sutures is well taken. I feel, however, that it only applies to the suturing of muscle tissue. We would never think of using a continuous suture for muscle tissue and on the contrary never use interrupted sutures for fascial plication work in hernias. The number of buried knots required would be far too many—between twenty and tyenty-five, and as Dr. Dealy has said, a No. 1 chromic continuous suture will withstand more than enough tension (about five times as much, it has been estimated). Buried knots predispose to poor healing, poor absorption, and infection. Furthermore, a continuous suture does not produce the constriction that a single tie does. The use of interrupted linen sutures as advocated by Dr. Thomas perhaps solves the problem satisfactorily from both standpoints and though we have had no experience with them we believe the idea a good one.

"It was the striking results obtained by this method that prompted me to choose this subject as a fit topic for a paper. Ninety-six per cent of the cases were followed up without a single recurrence. The other 4 per cent failed to return at regular intervals for examination, but as we have direct knowledge that these 4 per cent (Compensation cases) are still holding jobs entailing heavy labor with the same company we therefore feel justified in assuming that they have not recurred.

"In conclusion, we would like to state that the soundness of the underlying principles involved in this method seems borne out by the results obtained."

Effect of Knee-Chest Position and Postural Exercises on Postpartum Retroversion

Goodrich C. Schauffler, Portland, Ore. (*Journal A. M. A.*, Aug. 27, 1932), put alternate patients (odd numbers) in a group of 169 deliveries on knee-chest position and postural exercises, whereas alternate patients (even numbers) were not given such measures. Examination after six weeks revealed a substantially higher incidence of postpartum retroversions in the group subjected to the so-called corrective measures. The authors believe that it is fair at least to conclude that the use of such exercises does not justify the confidence that has been placed in them. It seems wise even to seek for factors in the use of such exercises that may actually retard the tendency toward involution and return to the normal anterior position.

Economics

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Report of the Committee on the Costs of Medical Care

AT the time of the organization of the Committee headed by Dr. Ray Lyman Wilbur the impression went abroad that the largest item in the cost of medical care was the physician's fees. It had been organized but a short time when it was learned that the physician's fees constituted less than 30 per cent and the name of the Committee was changed from the Cost of Medical Care to Costs of Medical Care. After five years of study and the expenditure of more than a million dollars the results of the work are reported now under the title Medical Care for the American People. The Committee has learned much during these five years and at intervals has furnished the public with much of the information, facts and statistics gathered. The complete report is not yet available for general distribution and final evaluation of it must await that distribution. Present reviews are based on these earlier pamphlets and on the official summaries and abstracts presented to the public. While we realize the place of statistics not checked by other investigators and the probability of error that exists in facts reported by interested searchers, and while we surmise that desired information sought is generally found, that interpretations and conclusions often coincide with preconceived views, and that the hobbies and life work of promoters must be borne in mind, still much credit must be given for the long, earnest, laborious work of the Committee, much appreciation accorded the generosity of the foundations, corporations and individuals who have contributed the needed money, and much praise given to those members who have conscientiously endeavored to accomplish some results that would be worth while. All doctors know that although complete failure may follow their most earnest efforts in behalf of a patient they are not amenable therefor, and while many of the recommendations of this committee seem of little real value, and the remedial plans advanced foredoomed to failure, yet no derogatory word may justly be said of the individual members of this Committee.

For that class of our people who are sufficiently endowed with money the Committee has no concern. Any lack of proper care, any neglect of preventive measures, any ignorance shown in selection by them of doctors or hospitals are responsibilities of their own. For the indigent the committee has no plan to improve the present economic dispensation. As individuals they must become patients in hospitals or dispensaries supported by the Government and treated there or at their homes by a salaried physician or freely through the generosity of the medical profession. For services of doctors in the municipal hospitals the report suggests that, as now, no remuneration be paid. For communities too poor to take necessary steps for the prevention of epidemics and for community health the State should contribute funds, and for those States not possessed of funds for public health purposes the deficiency would be supplied by the seemingly unlimited financial resources of the Federal Government.

For that middle class between these two, comprising the bulk of the population, the committee recommends plans of treatment by groups of physicians. The people may be formed into groups by voluntary association or be clustered about and controlled by some hospital, medical center or university corporation. Funds to pay for these medical and hospital services would be raised by such voluntary associations, by fraternal societies, by labor organizations or by industrial corporations. By regular frequent payments of very small amounts, totaling $20 to $40 per capita per year, complete care, preventive as well as remedial, at home, at office, at hospital or in sanitarium, by nurse and dentist or doctor, could be thus obtained. Some private group clinics throughout the country are extolled. Their advantages and minor drawbacks are recorded in earlier pamphlets, and the fact that nearly all the successful ones are completely under professional control is little emphasized. We already have very many group clinics. Some of them are called pay clinics, while others have existed for years as dispensaries, and their limitations are only too well known. The Committee does not recommend compulsory health insurance under the State as is urged by the Association for Labor Legislation, but it does concede that in the countries of Europe where voluntary health insurance groups existed the governments soon took them over as parts of compulsory plans. And control of these groups for political purposes, not primarily the health of the individual, was the motive.

The committee states that there are an insufficient number of general practitioners, but it also states that its plans when adopted will eliminate the independent, self-sufficient family doctor. Despite its considerations of personal relationship of patient and physician independence of either one seems particularly obnoxious to it. It is agreed that a man who has successfully completed all the training necessary to become a doctor and who has spent in money therefor—let us say, "$28,000" —is entitled to receive some money for the work which he performs.

Full time specialists averaged, the Committee says, $10,000 a year, while general practitioners received under $4,000. General practitioners should receive more, and specialists receive—well, there should be a more equable distribution. Lack of definiteness of language in describing the income physicians should receive is characteristic of lay writers on the practice of medicine, and particularly so of those business men who would never invest money or effort in an enterprise without anticipation of a definite return. "The physician would probably receive not less than at present"; "reasonable sums would be paid"; "the doctor will be fairly treated"; "the pay should be adequate and assured"; "the overhead will be less" are the terms used by many writers and one of these recently wrote in his support of government-controlled medicine that even though the monetary income be insufficient to permit a doctor to save any of it, yet if his character remains good and work satisfactory for 40 years to the intelligent lay board in control, a kindly paternal government may permit him at retirement an old-age pension to keep him from actual want.

Public health receives considerable attention in the

report and under that title is included not only those functions on which "there is nearly universal agreement", but also all those other functions which advanced medical thought has shown can be most successfully conducted by the private practitioner. All those preventive medical and dental measures applicable to the individual should be administered by the private physician and not by the State, and for every such service direct payment should be made. Increased attention and study is urged by the committee on the part of the physician and medical student, not only for prevention and control of epidemic and communal diseases, but especially for maternal and ante-natal cases, for the care of well babies, for prevention of diphtheria, variola, and typhoid and for periodic examinations of the well. Yet the student would not have his interest intensified by the knowledge that these measures were to become the work of State officers and not of private family physicians.

The report notes with approbation the great progress made in medical science and its application in the last half, and more strikingly, in the past quarter century. Typhoid is well nigh stamped out, diphtheria robbed of its terrors, malarial disease in process of eradication, tuberculosis death-rate reduced 50 per cent in less than twenty years, life expectancy made longer, knowledge and technical skill in every department of medical practice increased, yet the committee feels it should take to itself worries over the progress that might not come in the next half century. This progress of the past has not been greatly dependent on the work of the non-medical sociologist, the very wealthy business man, or the heavily endowed foundation, however valuable these may have been.

In all phases of actual group practice the committee states that the strictly *professional* work of the doctors should be under their control. It does not imply in any place that the prescribing of medicines or the performance of surgical operations should be in any other hands, but in all other parts of the work other agencies must have a share. "Local agencies should be established to evaluate and to coordinate existing medical services, to eliminate services not needed and to stimulate the provision of additional services." These local agencies should include representatives of the public, the medical profession and the health agencies, they tell us. Financial responsibility would rest with a board representing the public and "sufficient funds should be provided for executive and secretarial service." One might suspect that employment was contemplated in these days of depression for an almost unlimited number of lay workers.

The free choice by a patient of his doctor in and out of hospital has not been dwelt upon, but that intimate personal relationship so valuable and so essential has not been left unnoticed but so far as it fits into the plans "should be carefully maintained in such (group) clinics."

The report could not be fully or justly reviewed in this alloted space. Enough has been said, it is hoped, to stimulate every doctor to give it careful detailed study. In it is much valuable information. From it, according to the authorized summary, much is missing. The causes of the scandalous inability of people in the richest country on earth to afford forty to eighty cents per week for such necessities of life as medical care were not mentioned, and for this underlying condition no remedies suggested. That other financially graded groups spend much more money for confections, for tobacco, for personal and household adornments and for pleasure automobiles than is spent for physical care and public health brings no further notice. That the savings banks, the Christmas funds, and the building loan associations show by their billions of dollars that people can save is seemingly not important.

The medical profession must not be unmindful that upon the announcement of the completion of the report steps were taken and a new organization formed to put in immediate operation the proposed plans. "Whatever means may be employed, the time has come for action." To accomplish this purpose there has been announced the association with the newly formed organization of one of the highest powered propagandizing and publicizing corporations of this country.

Actuated by that spirit which holds the goods of the individual to be the doctor's first law, aided by that experience and judgment which years have brought to him, he will separate the useless from the useful in this report and will adopt anything of merit.

As always, he will strive with his professional brethren to protect the people from the evil effects of ignorance, from parasitic cultists and nostrum peddlers, from self-seeking theorists and from dangerous social experiments.

Dehydration Attendant on Surgical Operations

Frederick A. Coller and Walter G. Maddock, Ann Arbor, Mich. (*Journal A. M. A.*, Sept. 10, 1932), made a study of eighteen patients on whom operations were performed to determine the body fluid lost during the operation and during the first four hours after operation. During operation fluids were lost by vomitus, hemorrhage and insensibly through the skin and lungs. The amount lost by vomitus was not important; the amount lost by hemorrhage is often greater than the surgeon believes and varied with the type of operation from 8 to 1,272 Gm. The insensible loss plus visible sweating varied from 97 to 705 Gm., while this loss expressed in grams per square meter per hour is increased as high as nine times that of the basal state. During the first four hours after operation the principal water loss was through the lungs and skin, varying from 126 to 828 Gm. A comparison was made between two groups with different bed clothing. The water loss of the patients with lighter bed clothing was over 50 per cent less than that of the group placed in the routine "ether bed." The factors increasing the insensible loss and sweating were the temperature of the environment, principally that produced by blankets, struggling under anesthesia and the anesthetic. Under routine conditions, the total loss during the entire period averaged about 1 liter. It may be much higher in certain instances. The urinary output during this period averaged less than 10 per cent of the total fluid lost. A comparison of the urinary output with the fluid intake does not give a correct estimate of the water balance. Other factors of water loss such as vomiting and diarrhea are important and have been stressed. The authors emphasize another important source of water loss amounting to from 1.5 to 2 liters a day by the continuous insensible vaporization from the lungs and skin.

Indications for Nephrostomy and Nephrectomy in Carcinoma of Bladder

Montague L. Boyd, Atlanta, Ga. (*Journal A. M. A.*, Oct. 8, 1932), states that there have been in the past two essential things lacking to make nephrostomy as popular an operation as it should be, namely, satisfactory tube and urinary container arrangements and an operative technic which avoids hemorrhage and urinary leakage about the tube. An efficient urinary drainage method and apparatus are illustrated by a patient who had a nephrostomy eight years ago, is in good health, has married and has carried on the business of life satisfactorily. An operative technic is pointed out which was reported by Dr. Hugh Cabot last year. Attention is called to the importance and frequency of urinary obstruction in carcinoma of the bladder, which can in suitable instances be satisfactorily treated and prevented by nephrostomy. It should be used to prepare patients, particularly for cystectomy, when it is a more rational procedure than ureteral transplantation to the bowel, at least until ureteral transplantation by the Coffey technic is proved to supply adequate drainage as long as it is needed. The literature on carcinoma of the bladder would seem to indicate that urologists do not generally appreciate the frequency with which urinary obstruction occurs with bladder growth, nor are they often enough taking advantage of the opportunity that is offered by nephrostomy to cure or relieve the suffering of patients with carcinoma of the bladder.

Contemporary Progress

Editorial Sponsors

Medicine

Sedimentation Test As a Routine Laboratory Procedure

H. J. Schattenberg (*Archives of Internal Medicine*, 50:569, Oct., 1932) reports the use of the red cell sedimentation test as a routine method in the examination of applicants for health cards in the Dallas (Texas) City Health Department and of outpatients of Baylor Hospital. The technique found most practical was that of Cutler—a modification of the Westergreen method: with this technique readings are taken every ten minutes for an hour. From his study of the findings in the 1,100 cases in which this test was used, the author concludes that a normal sedimentation rate with a few exceptions rules out an active disease process. During menstruation and pregnancy there is some acceleration of the sedimentation rate. But otherwise a definite acceleration of sedimentation as compared with the normal is an indication of the presence of some disease process. In active pulmonary tuberculosis, the sedimentation rate is always rapid, whatever the physical findings; it is of more value than the pulse rate, temperature and weight in checking the results of treatment in tuberculous patients. In health examinations, the test assists in the diagnosis of obscure diseases that would otherwise escape detection. An accelerated sedimentation rate "means destruction of tissue," and indicates the need for re-examination of the patient to ascertain the nature of the pathological process if it was overlooked at first.

Non-Specific Protein in Peptic Ulcer

L. Martin (*Annals of Internal Medicine*, 6:622, Nov., 1932) reports 95 cases of peptic ulcer treated by intramuscular injections of milk protein. Usually six injections of 10 c.c. each were given on alternate days. Of the 95 cases treated, 78 per cent. were greatly improved or entirely relieved of symptoms at the end of the treatment. A still greater percentage of good results was obtained in those whose symptoms were of less than a year's duration (84.6 per cent.). The first result noted was the relief of pain, which rarely persisted after the third injection. Other symptoms, such as vomiting, distension, gas, belching, and regurgitation disappeared later. There were rarely any general reactions to the injections. Of the 95 patients, 71 were treated over a year ago, and of these 60 have been followed up. Sixty per cent. of this group show clinical cure or marked improvement; of those whose symptoms had been present less than a year prior to treatment, 77.9 per cent. show good results. Roentgen-ray examination was made in 34 cases two or three years after treatment; 12 of these showed marked improvement in the Roentgenographic signs of ulcer; 3 showed only diminution of spasm; these patients are clinically well; but some of those patients still showing definite Roentgenographic evidence of ulcer are also clinically well. The author notes that the mode of onset of the symptoms of peptic ulcer, the duration of symptoms, the self-limitation of an attack in the early stages, and the regularity of occurrence, suggests that the original ulceration may be "the result of a reaction of sensitized tissue to a specific antigen . . . the ulcer *per se* simply an allergic phenomenon." If this is true the milk protein injections are a non-specific desensitization therapy. On this hypothesis, the author suggests that if the patient comes for treatment when the recurring attacks are appearing at regular times, a series of injections should be given before the next attack is due. Repeated courses of treatment should be given as indicated. While most of the patients in the series reported have been on a general diet, better results would probably be obtained by using a soft non-irritating diet, especially in the more advanced cases with well marked secondary changes.

Potassium Sulphocyanate in Hypertension

R. S. Palmer (*American Journal of Medical Sciences*, 184:473, Oct., 1932) reports the use of potassium sulphocyanate in 35 cases of arterial hypertension. In most of these cases the hypertension was of several years' duration, and the majority showed evidence of the late effects of continued hypertension. Eleven (or 31.42 per cent.) of these patients showed a definite and marked lowering of the blood pressure when the drug was given in sufficient doses; 13 others showed some lowering of the blood pressure, but a less definite effect. The dosage was varied considerably in accordance with the patient's tolerance; in general two concentrations were employed—1½ gr. per drachm and 5 gr. per drachm of peppermint water. These doses were given one to three times daily for four to eight or ten weeks. Both the weaker and the stronger concentrations were used in 20 patients, including all those who showed a definite fall in blood pressure under treatment. Toxic effects were observed in 9 cases, and 2 others showed symptoms which may have been due to the drug. In one case there was an increase in anginal pain and in another the onset of angina during the use of the drug. By carefully controlled dosage, toxic effects could be reduced to a minimum. Weakness may be noted during the use of the drug, but is not necessarily a toxic effect and does not always contraindicate its use. As a rule the hypotensive effect of potassium sulphocyanate is not lasting, and after the drug is discontinued it is more difficult to obtain this hypotensive effect by repeated courses. In combination with a general regimen, including rest and diet, this drug may have a value in the treatment of hypertension not indicated by its hypotensive action alone.

Insulin in Obliterative Lesions of the Blood Vessels

S. M. Beale, Jr. (*American Journal of Surgery*, 17:413, Sept., 1932), notes that recent studies of insulin indicate that it not only regulates carbyhydrate metabolism but also stimulates the combustion of fat. On this theory, he has used insulin in the treatment of certain obliterative lesions of the blood vessels in which fat plays an important rôle in the occlusion of the vessels. These conditions include: Atherosclerosis in both diabetics and non-diabetics; bed sores in old people; angina pectoris; deep and extensive leg ulcers; chronic nephritis; and thrombo-angiitis obliterans. In the cases treated symptoms were definitely relieved by the insulin; gangrenous and ulcerative lesions healed. Only small doses were given, usually 5 units, and not more than 10 units, in any case. These doses were not given daily, but once or twice a week. The theory of this treatment is that in these conditions in which insulin is effective, the vascular occlusion is not due to fibrous tissue or calcareous deposits but primarily to the presence of fat-laden cells that gradually narrow and finally occlude the terminal vessels; the insulin acts "by the burning of fat-laden cells in the flame which consumes the blood sugar," thus increasing the flow of the blood stream.

Gall-Bladder Infection and Arthritis

E. F. Hartung and O. Steinbrocker (*American Journal of Medical Sciences*, 184-711, Nov., 1932) note that the gall-bladder is frequently mentioned as a focus of infection in chronic arthritis, but there are very few clinical studies on the importance of gall-bladder infection as an etiological factor in arthritis. At the Arthritis Clinic of the New York Post-Graduate Hospital, in the study of 200 consecutive cases of chronic rheumatic disease representing all types (rheumatoid arthritis, osteoarthritis, myositis and neuritis), it was found that 30 patients either gave a history or showed symptoms suggesting gall-bladder disease. These 30 patients were subjected to cholecystography; and in doubtful cases duodenal drainage was employed. The cholecystographic findings were normal in 25 of these 30 patients; in 5 they indicated gall-bladder infection. In 4 of the patients with normal cholecystographic findings, duodenal drainage showed biliary tract infection—streptococci in 3 cases and *B. coli* in one. Thus there was evidence of gall-bladder infection in 9 cases, 4.5 per cent. of the 200 cases in this series, and all showed definite clinical symptoms of cholecystitis. Of the 9 patients, 6 had the osteoarthritic type of arthritis, and 3 the

infectious type. In one case a cholecystectomy was done and a vaccine made from the organisms found in the duodenum; in all the other cases repeated duodenal drainage was done. In no case was the arthritis definitely improved by these measures. The evidence of gall-bladder disease was no higher in this series than in any group of general hospital admissions, and in no case was it demonstrable that the cholecystitis was a definite factor in the etiology of the arthritis.

Liver Function in Infectious Diseases

H. Vogt (*Zeitschrift für klinische Medizin*, 122:33, Oct. 4, 1932) reports the use of liver function tests in 11 cases of infectious disease of various types—4 cases of erysipelas, 3 cases of scarlet fever, one case each of angina, measles, typhoid and diphtheria. The tests of liver function used were the levulose test (for the carbohydrate assimilation function), the bilirubin tests and determination of urobilin and urobilinogen in the urine (for bile pigment metabolism), and determination of acetone in the blood (for fat metabolism). Of the 11 cases, 9 showed disturbances of the carbohydrate assimilation function of the liver, 10 insufficient bilirubin excretion, and 7 disturbance of the fat metabolism function. The degree of liver dysfunction was determined by the severity of the infection, rather than by the type of the infection. None of the infections studied appeared to have a specifically injurious action on the liver. Three of the cases—the case of angina, of measles and one of scarlet fever—were clinically of a mild type and showed little or no disturbance of the liver function. In most cases the liver function returned to normal during convalescence; but in one case (diphtheria) signs of liver dysfunction persisted for some time. The author notes 2 other cases of severe and fatal infection (one case of infectious sore throat and one of erysipelas) in both of which the patients were jaundiced before death; one of these patients died in coma hepaticum; in the other case autopsy showed acute yellow atrophy of the liver.

Surgery

Water and Chemical Balance in Surgery

T. G. Orr (*American Journal of Surgery*, 18:279, November, 1932) emphasizes the importance of studying the water and chemical balance of every surgical patient. In surgical conditions that are known to cause marked water loss and salt deficiency, such as high intestinal obstruction and severe burns, careful estimate and correction of the water loss and chemical imbalance is imperative. The quantity of water loss is estimated on the basis of thirst, daily intake and output of fluid, and by determination of blood concentration by hemoglobin or hematocrit readings. Quantitative measurements of blood chlorides and the acid base balance are made in the laboratory. In all surgical cases an accurate "liquid chart" showing the daily intake and output should be kept, and with very ill patients, the blood chemistry readings should be determined daily. To maintain water balance in the average surgical case, the author advises a minimum daily intake of 3 liters of fluid for the first few days. In cases of low blood chlorides, salt therapy is started by giving 500 c.c. of a 5 per cent. sodium chloride solution intravenously; this is supplemented by physiologic salt solution under the skin and by rectum and further intravenous injections in sufficient quantities to supply the water needed. The alkalosis that develops in pyloric and high intestinal obstruction is relieved by the administration of sodium chloride. If there is acidosis glucose is given intravenously either alone in 10 per cent. solution or added to the sodium chloride solution; if there is hypochloremia, glucose should not be used as a substitute for sodium chloride, but in association with it. Any intravenous injection should be given slowly; the author has found that one to one and a half hours is necessary for 500 c.c. of sodium chloride or glucose solution. If continuous intravenous drip is used, the rate should be 30 to 60 drops per minute.

Treatment of Appendicitis with Peritonitis

A. M. Shipley and H. A. Bailey (*Annals of Surgery*, 96:537, October, 1932) note that recent reports indicate that in cases of early spreading or diffuse peritonitis complicating appendicitis, the abdomen may be closed without drainage. In their own experience at the University of Maryland Hospital (Baltimore), they have adopted this method in the last two years in such cases. Since June, 1930, they have operated 179 cases of acute appendicitis; 113 were uncomplicated; 11 had late diffuse peritonitis and were drained; of these 4 died, 2 after having been reoperated for intestinal obstruction; 7 had a palpable mass (walled-off suppuration) and were drained; 48 had early peritonitis, either local, spreading or diffuse; in these cases the abdomen was closed without drainage. There were no deaths in this latter group and no serious complications. There was a marked lessening in the severity and duration of paralytic ileus as compared with previous cases in which drainage was used. A definite technique was followed in these cases; the McBurney incision was used modified by a short transverse incision in the anterior sheath of the rectus mucle. If the cecum was sufficiently mobile, it was rolled out and the base of the appendix brought into view. The appendix was freed, wrapped in gauze, and removed, and the stump carefully closed and turned in. The abdominal cavity was emptied of liquid exudate with the aspirator, and then flushed with warm salt solution, which was slowly pumped out as it was poured in; any masses of fibrin adherent to the intestines were removed with moist gauze or smooth forceps. The peritoneum was then carefully closed, the wound edges wiped over with alcohol, and with ether if there was much fat, and the abdomen closed layer by layer. If the peritonitis was extensive and the appendix difficult to remove, a small tube drain was left extending through the fat down to the aponeurosis of the external oblique muscle, but the peritoneal cavity was not drained. Drainage is to be avoided in appendicitis whenever possible, the authors believe, as the presence of drainage material causes a reaction in the peritoneum that often results in widespread adhesions. Late intestinal obstruction is more apt to occur in drained than in undrained cases.

COMMENT

The point as to fat is worthy of emphasis: the fat external to fascia is much less resistant to infection than the peritoneum and in greater need of drainage, especially when thick and flabby. C. H. G.

Splenectomy in Purpura Hemorrhagica

E. L. Eliason and L. K. Ferguson (*Annals of Surgery*, 96: 801, November, 1932) present a review of 213 cases of purpura hemorrhagica in which splenectomy had been done, reported in literature up to 1932. There were 28 deaths in this series, a mortality of 13.1 per cent.; there were 156 cases, or 73.2 per cent., reported as cured by the operation, and an additional 17 cases, or 8 per cent., as improved. The results were better in chronic purpura hemorrhagica with 88.1 per cent. cured or improved than in the acute type with 65.7 per cent. cured or improved. The authors report 5 additional cases, 2 of the acute type, in which splenectomy was done, with good results in all. The authors conclude that splenectomy is at present the most effective method of controlling extensive hemorrhage in purpura hemorrhagica of either the acute or the chronic type. When the diagnosis is definitely established early operation is indicated with adequate preparation of the patient by blood transfusion. In spite of the effectiveness of spenectomy in controlling the bleeding in purpura hemorrhagica, the authors note that it has not yet been proven that the spleen is the organ primarily at fault in purpura hemorrhagica. The "weight of evidence points to some type of toxemia as an etiological factor," and hence removal of foci of infection is indicated to prevent recurrence after the bleeding is controlled.

Thrombosis and Embolism (Treatment and Prophylaxis)

P. Neuda of the Univerity of Vienna (*Deutsche Zeitschrift für Chirurgie*, 237:363, October 4, 1932) in a study of postoperative thrombosis and embolism, found that patients developing these complications showed an unusual auto-agglutination of red cells which was not observed in other surgical patients. This auto-agglutination was inhibited *in vitro*, by the addition of a liver extract to the serum. In clinical practice, the administration of this liver extract had a definitely favorable effect in all cases of thrombosis. The author notes that a special predisposition to thrombosis is seen in those cases in which there is a disturbance of lipoid metabolism. The operation results in a discharge into the blood of certain substances and an abnormal reaction between the blood and tissues in these predisposed persons, which is evidenced by the abnormal auto-agglutination. The thrombosis results from this biological reaction; embolism is a later stage of this process in which the breaking down of the thrombus occurs. In practice the determination of the auto-agglutination reaction and the administration of liver extract are of value in the prophylaxis and treatment of thrombosis.

Artificial Respiration for the Surgical Clinic

W. W. Babcock (*American Journal of Surgery*, 17:221, August, 1932) notes that the usual methods of artificial respiration are not well adapted to use in the operating room. For over twenty years, he has used a method of thoracic compression which has proved effective in most cases. The patient's arms are extended alongside the head; a large pad is placed in the abdominal wound; the operator stands on the right side facing the patient, clasps his hands together over the manubrium, with elbows and forearms coapting the lateral thoracic walls. Pressure is made with hands, forearms and elbows back, down and in, aided by the weight of the body; this produces expiration, and inspiration results as the pressure is sharply released. When this method fails, mouth to mouth insufflation is used.

rather than oxygen or oxygen-carbon dioxide, in order to avoid any loss of time "to make sure that the machine is properly delivering only pure oxygen and carbon dioxide in the right proportions." In threatening respiratory failure, before respirations have ceased, the inhalation of 10 per cent. carbon dioxide in oxygen is "a powerful stimulus."

Roentgenographic Findings in Acute Intestinal Obstruction

In experimental work on dogs, P. C. Swenson and J. S. Hibbard (*Archives of Surgery*, 25:578, September, 1932) found that gaseous distention of the bowel can be demonstrated roentgenographically on an average of three to three and a half hours after acute mechanical obstruction of the intestines. Fluid levels were demonstrable from three to four hours after the appearance of the gas. Clinically intestinal obstruction can be demonstrated roentgenographically without the use of the opaque meal, before the symptoms are definite. In cases in which obstruction is suspected the authors make roentgenograms in four positions, if possible, supine, erect, and the antero-posterior or postero-anterior with the patient recumbent on his left and right sides; with very ill patients, the erect position is not attempted. The character of the shadow of the distended intestine, its location and extent, correlated with the history and physical findings indicate the level of the obstruction with a fair degree of accuracy in most cases. In 55 cases of ileus at the Presbyterian Hospital, New York City, in which the diagnosis based on the Roentgen-ray findings was confirmed at operation, it was found that 49 per cent. showed no clinical signs of distention, and 23.6 per cent. only mild distention, although the roentgenographic signs were definite. Only 9 per cent. showed a characteristic marked distention and 40 per cent. showed the typical continuous projectile vomiting. A diagnostic point of value in the localization of the level of obstruction is the relatively abrupt disappearance of the striae in the shadow of the distended jejunum as it approaches its junction with the ileum.

Urology

Kidney Weight, Body Size and Renal Function

E. M. McKay (*Archives of Internal Medicine*, 50:590, October, 1932) presents a study of kidney weight and renal function in relation to body size. The figures given by Vierordt for body weight, height and kidney weight in relation to age were used; body surface was calculated by the Du Bois formula; renal function was determined according to the Addis formula:

$$\frac{\text{Urine urea rate (mg. per hour)}}{\text{Blood urea concentration (mg. per c.c.)}}$$

It was found that kidney weight in relation to body weight decreases with age, and in relation to body length, increases with age. The relation of kidney weight to body surface was a direct one, practically the same at all ages. The Addis ratio for urea excretion has also been found to be proportional to the body surface. Thus both the renal function as measured by this ratio and kidney weight are directly proportional to the body surface in man.

COMMENT

Although not so stated, beyond question, observations of this kind return us with added emphasis to elimination by the skin during renal insufficiency and disease. Various forms of physical therapy and even the old-fashioned but experience-honored hot-pack can not be disregarded in keeping up the total urea elimination in these cases. *V. C. P.*

Changes in the Bladder Wall Secondary to Prostatic Obstruction

D. K. Rose (*Archives of Surgery*, 25:783, October, 1932) distinguishes four "degrees" of change in the bladder wall resulting from prostatic obstruction. The first degree is a physiologic hypertrophy, with resulting increase in the initial force of the contraction and some frequency and urgency of urination. With this is associated increased strength and irritability of the internal sphincter. The second degree of change is an early physiologic decompensation which is of the nature of a physiologic nerve block or pressure anesthesia; at this stage some residual urine is present. The third degree of change is early anatomic decompensation; this may continue to cellule and diverticulum formation; in the cystogram such a bladder shows a typical conical allantoic weakness with deep trabeculations about the base, and cellules or diverticula. The symptoms of this stage are those of increasing dysuria with residual urine. The fourth and greatest degree of change in the bladder wall is that of myogenic decompensation; all the elasticity of the wall has been lost. The more sudden the onset of complete prostatic obstruction, the less marked is the change in the bladder wall; the more gradual the obstruction, the greater the change in the bladder wall and the greater the percentage of cases showing associated pathological conditions. The changes in the bladder wall may be arrested at any stage of compensation or decompensation if the "balance of power" between prostatic resistance and expulsive force of the bladder wall remains in favor of the latter. In cases in which the changes in the bladder wall are those of physiologic hypertrophy, the one stage operation is usually indicated. In the presence of marked decompensation of the bladder wall, the two-stage operation is usually indicated.

COMMENT

The elements of decomposition of the urine and infection as to duration, severity and penetration must receive full recognition. The old cases of pancystitis are rare in urban patients but are still occasionally seen in rural victims through delayed diagnosis, deficient treatment and postponed operation. *V. C. P.*

Prostatectomy for the Small Prostate

E. G. Crabtree (*American Journal of Surgery*, 18:251, November, 1932) notes that in cases of glandular or fibrous bar type of obstruction associated with a small prostate, in which the prostatic urethra is freely open, a cautery punch operation gives good results. But there is another type in which obstruction is caused by a small gland; in this type "small lateral lobes are held firmly approximated in the inelastic tissue" with resulting obstruction even after cautery treatment of the prostatic bar. Adenomatous tissue may occur in glands of this type. The author has operated 26 such cases by total prostatectomy by the perineal route, chiefly for the relief of obstruction, but secondarily for extensive and long continued prostatic infection which was usually present. The technique used is essentially that employed by Young for total prostatectomy in cancer. The operation is usually less difficult technically than partial removal by enucleation or dissection. In the 26 cases operated there was one postoperative death in a patient with an extensive renal damage. In the patients who recovered from the operation satisfactory end results have been obtained in all but one; this patient has some leakage on exertion, coughing or sudden motion, but there is no infection. Total prostatectomy has given better results in this type of small gland prostatism than any other type of operation, in the author's experience.

Calculous Prostatitis

V. C. Pedersen (*Medical Times and Long Island Medical Journal*, 60:337, November, 1932) emphasizes the importance of urinary infection as a causative factor in the formation of calculi in the genito-urinary tract. No case of renal, ureteral, bladder or prostatic calculus can be considered to be cured until the focus of infection is found and treated and the urinary tract rendered free from infection. He reports an illustrative case in which prostatic calculi developed in a patient who had suffered from constipation for at least fifteen years. The *x*-ray showed numerous prostatic stones; the urinary examination showed many *Bacilli coli*. The stones were removed by the perineal route, and because of the danger of recurrence in an organ once the site of calculus formation, so much of the prostatic tissue was removed that recurrence was impossible. After recovery from the operation, treatment was instituted to correct the intestinal and urinary tract infection. Under treatment, *Bacilli coli* disappeared from the urine, but treatment was continued to maintain "the bacterial balance" in the intestines. Upsets of this balance with a marked increase of *Bacilli coli* in the feces occurred only after some dietary indiscretion. The author has found that in cases with calculus formation due to *Bacilli coli*, the best results are obtained in those patients who under suitable treatment, maintain a normal intestinal flora for indefinitely long periods. Those who show periodic relapses—often because of dietetic errors—must be kept under careful observation if urinary tract infection and calculus formation are to be prevented.

Shadowless Urinary Obstruction

N. S. Moore and E. E. Sexton (*Southern Medical Journal*, 25:967, September, 1932) discuss four types of urinary obstruction in which plain roentgenography is of little aid in diagnosis. These four conditions are: Shadowless calculi; accessory renal vessels; adhesions around the uretero-pelvic juncture; stricture of the lower end of the ureter. In the diagnosis of these cases a thorough urological examination is necessary, including pyelography; while intravenous pyelography is a useful adjunct, the authors consider retrograde pyelography to be a necessity in these cases. Renal calculi that do not contain enough calcium salts to give a shadow in the plain roentgenogram, appear as an area of rarefaction in the opaque medium with either retrograde or intravenous pyelography. The authors note that they have observed "their proportionate share" of calculi of this type, and this includes 2 of the rare fibrin stones, one in the kidney and one in the bladder. They have observed 9 cases of accessory renal vessels in the lower pole causing obstruction and

hydronephrosis; in all but one of these the kidney was so badly damaged that nephrectomy was indicated. In cases of obstruction, relief of the obstruction and restoration of function are indicated wherever possible. If, however, the kidney is badly damaged, a nephrectomy should be done if the function of the opposite kidney is good; an unsatisfactory plastic operation may necessitate a nephrectomy later when the opposite kidney shows greater damage.

Roentgen Symptomatology of Urinary Tract Infections

R. E. Cummings and H. A. Jarre (*Journal of Urology*, 28:455, October, 1932) report a study of the roentgenological findings in cases of urinary tract infection of various types, using serial roentgenography with the Cinex camera designed by Jarre. With the use of this camera the "transport mechanism" of the upper urinary tract has been found to conform to a regular order of peristaltic emptying. The renal pelvis contracts segmentally with the calices acting more or less independently; the ureter contracts regularly, showing three chief segmental units. Urinary tract infection causes definite deviations from the normal physiological activity, depending upon the site and the stage of the infection. Various infection types show no differentiating symptoms. In general, acute infections are at first irritative, and later paralytic; gradually in the chronic stages atony and dilatation result.

Renal Tuberculosis in Intravenous and Retrograde Pyelography

E. Simon (*Zeitschrift für Urologie*, 26:593, September, 1932) notes that in early cases of renal tuberculosis in which the function of the involved kidney is still fairly good, he has found that intravenous pyelography alone is sufficient to establish the diagnosis without the necessity of ureteral catheterization, as the former clearly demonstrates the characteristic pathological changes. In more advanced renal tuberculosis, in which the function of the tuberculous kidney is diminished, intravenous pyelography is chiefly useful as showing the degree of loss of function of the diseased kidney, and the condition of the opposite kidney. If the latter shows normal or nearly normal function nephrectomy is clearly indicated. In these cases if a diagnosis of tuberculosis can be definitely made from the clinical findings, retrograde pyelography is not indicated; but if necessary it should be used on the diseased side. In far advanced cases, retrograde pyelography may not be possible, and in such cases is not necessary. In cases with cavity formation or calculous deposits, these conditions are shown by the plain roentgenogram.

Pediatrics

Nervous Manifestations in Infantile Scurvy

O. R. Langworthy (*Bulletin of Johns Hopkins Hospital*, 51:117, September, 1932) notes that there has been but little attention paid to the nervous manifestations of scurvy. There are, however, nervous symptoms in many cases. Children with scurvy are irritable and peevish; the knee-jerks are often markedly exaggerated. It may be that the pain and tenderness in infants with scurvy are due in part to sensitiveness of nerve trunks as well as of the periosteum. Certainly the pain is relieved as soon as adequate treatment is instituted and before absorption of the subperiosteal hemorrhages could take place. A case is reported from Johns Hopkins Hospital of scurvy in an infant, presenting symptoms of central nervous system involvement and brain lesions not previously reported in scurvy. The patient was a boy ten months of age, who had lived exclusively on a milk diet and developed typical signs of scurvy. After four days' treatment with an adequate antiscorbutic diet and two blood transfusions, he developed hemiparesis on the left side and tremors on the right side of the body. At autopsy many minute hemorrhages were found on the surface and in the cortex of the cerebellum and in the right half of the corpus callosum. These hemorrhages in the brain may have been precipitated by the two transfusions, but probably represent unusual hemorrhagic lesions of scurvy.

Early Treatment of Congenital Syphilis

On the basis of their experience with potentially syphilitic children, E. D. Atlee and R. M. Tyson (*American Journal of Diseases of Children*, 44:718, Oct., 1932) maintain that all children born of syphilitic mothers who have had little or no antisyphilitic treatment during pregnancy, should be given immediate postnatal treatment for syphilis. Most of these children show no clinical evidence of syphilis at birth or for some weeks after birth, but a considerable percentage—some statistics indicate 50 per cent.—develop symptoms later. If there is a positive Wassermann reaction of the blood of the umbilical cord at delivery, early antisyphilitic treatment of the infant is definitely indicated. The course of treatment given consisted in four injections of bismuth (bismuth sodium tartrate) followed by six injections of sulpharsphenamine, and then by four more injections of bismuth—a course of fourteen weeks. All of the infants who had no symptoms of syphilis at birth, and who took the full course of fourteen injections, remained clinically and serologically free from syphilis during the first year of life. The few babies who developed symptoms or a 4 plus Wassermann reaction received little or no treatment and did not attend regularly. There were only 3 out of 351 infants in this series who showed definite evidence of syphilis during the two weeks of the lying-in treatment. In spite of treatment 2 of these infants died during the first few months.

Infantile Eczema

In skin tests with various proteins in 132 cases of infantile eczema, L. W. Hill (*New England Journal of Medicine*, 207:655, Oct. 13, 1932) found that 76, or 57 per cent., gave positive reacts, 39 per cent. to egg, 15 per cent. to milk, and 9 per cent. to wheat. Of 52 cases that gave positive reactions to egg protein, 30 had never eaten eggs, and were not getting egg protein through breast milk as they were bottle-fed. If these cases are excluded, 47 per cent. gave positive tests to some protein that they were taking in their food. When very definite sensitization to one or two foods exists, and when the skin tests are supported by the clinical history, very good results may be obtained by withdrawal of the offending food. This is particularly true of infants on an exclusive milk diet. In 76 infants with eczema, Sobee—made from soy bean flour, homogenized olive oil, purified cornstarch and various salts—was substituted for milk. Twenty-six cases were definitely cured of eczema and the cure was so "rapid and striking" that there can be no question that milk was the cause of the eczema in these cases, although only 7 gave positive skin reactions to milk. Fourteen other cases showed such definite improvement, although not entire cure, that the withdrawal of milk could be considered a satisfactory procedure. Ten infants who took the food well showed no improvement. Some of the children, especially older infants, could not take Sobee. Excluding these and 13 cases in which no definite conclusions could be reached, about half of a series of 54 cases of infantile eczema showed such striking and definite improvement on the withdrawal of milk that there can be no doubt that some property of the milk was the cause of the eczema. As most of these infants did not give positive skin reactions to milk protein, it is possible that they were sensitized not to whole milk protein, but to some of the higher intermediate products of the protein digestion such as albumoses and peptones. A milk-free diet, however, is not a cure for most cases of infantile eczema; it is merely "one extra way of getting at the disease," in the more severe cases or those showing a definite milk sensitivity.

Immunization Against Measles With Placental Blood

J. Salazar de Souza of Lisbon (*Archives de médecine des enfants*, 35:633, Nov., 1932) has used placental blood for immunization of children against measles for four years. This method was used on the theory that the placental blood differs from that of the mother and also from that of the fetus, and contains products of the metabolism of the placenta. These substances act as non-specific antigens, so that the injection of placental blood in children would result in the production of immunizing antibodies, but the immunity would not be specific. The symptoms of measles, as well as those of scarlet fever, are similar to those of certain anaphylactic states, and therefore such nonspecific immunity should be of definite protective value. In the four years in which the author has used injections of placental blood from the placentas of normal, healthy women, for the immunization of children susceptible to measles and definitely exposed to the disease, he has obtained complete protection from the disease in 63.4 per cent. to 85 per cent. of cases. In a number of cases not completely protected, a definite attenuation of the disease was obtained. The lower percentage of successful results was obtained in 1932, when the author used a tyndallization method for the sterilization of the placental blood. This method, he believes, is not necessary and reduces the immunizing power. The injections should be made intramuscularly rather than subcutaneously and thus cause no severe reactions.

A New Treatment For Rickets

C. J. Bloom (*Southern Medical Journal*, 25:1109, Nov., 1932) states that he has used secondary calcium phosphate in rickets both in the treatment of active rickets and prophylactically. This has been used without vitamin D. He has found that when secondary calcium phosphate is added to milk or milk products it is effective in both the cure and prevention of rickets. With this treatment there has been no excess of calcium or of phosphates in the blood and the calcium-phosphorus ratio has been maintained. There was a marked improvement in the general condition of the children, in musculature and in

(*Concluded on page 32*)

Medical Times

& LONG ISLAND MEDICAL JOURNAL (CONS.)

A Monthly Record of Medicine, Surgery and the Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

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NEW YORK, JANUARY, 1933

Babinski

A great clinician has passed on. Joseph Babinski began his career as Charcot's chief of clinic at the Salpêtrière. Born in Paris on November 17, 1855, he lived and died in that city. For many years he conducted his Monday morning clinics at the Hôpital de la Pitié and physicians from all parts of the world were there to witness his remarkable work on diseases of the nervous system. About two years ago Babinski began his retirement, only appearing at times at the hospital in the service of Professor Vaquez.

Perhaps he is best known for the reflex that bears his name, first described by him in 1896. In 1897 a more complete description was made by him at the Congress of Neurology at Brussels. In 1903 another sign of the toes, the "fanshape sign," was described by him—an abduction of one or more toes when the sole of the foot is excited. It is rare in normal individuals but found in diseases of the pyramidal tracts and especially in congenital spasmodic paralysis, accompanying athetosis. Later he described another sign associated with abduction of the toes.

In his clinic one was impressed by the speed of his action, and he radiated enthusiasm. To spend a morning with Babinski meant a stimulation to all those present. He accomplished a great deal in those few moments.

War work in neuroses occupied much of his time. Many soldiers were rehabilitated by him and returned to action. His book, a part of a collection on war surgery, noted many advances in neurology.

In his clinic, Babinski examined patients each day and one of the interesting features was the orthopedic work of Dr. Bidou in connection with paralytics. Dr. Bidou worked with Babinski for several years. He made appliances for paralytics, replacing paralyzed muscles with springs and thus enabling men who had been bedridden for years to work again. Visiting physicians in Paris would do well to see Dr. Bidou's work at his own hospital—25 bis boulevard du Chateau, Neuilly s/Seine. Here one will witness remarkable work on paralytics and one can see Babinski's methods of examination of the nervous system carried on by one of the men he was most proud of.

Babinski's work on hysteria was remarkable. At times in his clinic one could see Charcot's hypnotic methods used in the diagnosis of hysteria. One could well imagine being back with Charcot for the moment. The diagnosis of hysteria was made with remarkable speed in a simple way.

The writer spent much time in Babinski's clinic. When he saw him a year and a half ago he felt that it was the last time he would see him. Babinski was retiring at that time and, although he seemed in good physical condition, men of his type do not live long after retirement. Widal was failing at that time and another great clinician was about to pass on. Gilbert was already dead. All of the old masters were ending their careers. Prof. Hartman is perhaps the only one left of the old school.

Babinski was a man of few words. His writings are not extensive.

He was a charter member of the Society of Neurology and of the Society of Biology and a member of the Academy of Medicine, a commander of the Legion of Honor and had received many other honorary degrees and titles.

M. W. T.

Page Gilbert and Sullivan!

Many years ago we knew a practitioner who achieved much local fame as a "dollar-doctor." His fees for almost anything but obstetric work was one dollar (or less). For obstetric cases he charged five dollars and contracted to make one post-partum visit. After awhile he evolved a ten-cent corporation; that is, he offered to attend whole families in sickness for a fee of ten cents to be paid weekly in behalf of each person concerned. This precious genius then became famous as the "ten-cent doctor."

We note that the celebrated Cost-of-Medical-Care majority and its chairman—characterized by the *Philadelphia Record* as an "arch-reactionary"—have worked out a similarly preposterous plan involving somewhat similar costs. As the *New York Evening Post* puts it, Wilbur's socialization plan seeks to turn the best, because highly individualistic, physician into the worst, or "company doctor."

The plan is in every way worthy of the man who emitted the freakish judgment of the depression as a boon and blessing to children—the same man of whom we think whenever we recall the Coffey-Humber cancer-cure patent. He is typical of our present-day "great" men.

That old ten-cent doctor was the spiritual ancestor of the gentlemen who filed the Majority Report.

Formerly the ten-cent doctor operated as an individual disgrace. Now he is to be institutionalized—another case of mass murder made respectable.

These majority committeemen are ten-cent prophets and the sons of a ten-cent prophet. Common decency

should move them to erect a shaft over the grave of their much maligned spiritual ancestor, who was in reality, one can see, a man of precocious vision, of social insight, and of economic imagination.

Asklepios, viewing the farce from his high post on Olympus, must weep.

Racketeering De Luxe

No sooner does the end of the "noble experiment" approach than the country begins idiotically to flirt with a much worse political disease—socialization of its medical services—as though it had not had nearly enough punishment.

Only in a country in which the concepts of social progress and social justice have sunk pretty low could such a monstrous proposal as the socialization of medicine be evoked by uplifters. The physician is to become wholly the tool of an industrialized, mechanized, materialized society whose prophets and saints are the Teagles, the Filenes, the Wilburs, and the Moores, and, as actually happened in England, perhaps the forerunner of a socialist government.

The scheme dovetails nicely with such things as job communism (job sharing) and birth control as one more wretched palliative in a world of exploited suckers—as one more expedient determined by the present distribution of wealth. Had the profits of business and industry been fairly distributed there would be no occasion for discussing such a makeshift.

The doctors are goats to be drafted to care for the masses and middle classes who are being let down to a plane upon which they will be unable to earn enough to pay the private practitioner. Such a scheme will serve mightily to make the world temporarily safe for privileged plutocracy and for the militarists who know that the next economic war will be much more expensive than the last one. It will obviate such things as a better distribution of wealth, higher inheritance taxes, higher taxes in the upper income brackets, capital levies, etc. Instead of maintaining high wages and salaries, or yielding to the natural economic evolution of industrial democracy toward participation in ownership, the costs of socialization will be met, leaving taxation where it is to-day or lowering it. The doctor is the key to this program.

This is not evolution; it is social pathology, smelling to heaven. It is not sane planning or engineering, but a perversion of managing genius—for sordid ends.

The editorial in the *Journal of the American Association* of December 3 reveals clear insight when it characterizes the socialization scheme, in whatever form it may appear, as an "exploitation of physicians for the gain of business." It is indeed the bastard progeny of the incestuous partnership between the political state and the vested interests.

Racketeering has reached new heights. A new descriptive term is in order. Either racketeering de luxe or super-racketeering will serve.

Technocracy and Medicine

What would be the fate of medicine under a technocratic organization of society?

Technocracy promises to scrap all such out-moded expressions of capitalism as fascism, socialism and communism. It appears that capitalism, while it has served many excellent purposes, is now suffering from senile dementia, so to speak, and will have to give way to a really scientific type of civilization, in which a unit of energy will replace the wasteful price system.

The so-called technocrats are a group of engineers at Columbia University who for several years have been studying the effects of the machine upon employment and expressing industrial production and consumption in terms of energy. They argue that our continent has the trained personnel, the equipment and the resources wherewith to move the race into a new era, an era of standards higher than any in the past. There would be no price system, debts or wages—and no money. All work would be done by persons between the ages of twenty-five and forty-five in 660 hours a year (four hours a day, four days a week, ten months a year). The leader of the Columbia group is Howard Scott, one of the constructors of Muscle Shoals.

This approach to social metabolism should naturally interest the medical profession. If under technocracy the North American standard of living should be, as its promoters claim, ten times higher than in 1929, it is reasonable to suppose that medicine, freed of the old economic curse, would be called upon to make tremendous forward strides.

When the Big Boys Play with Medicine

The late Miss Evangeline Adams, the New York astrologer, enjoyed an income of $50,000 a year. It is known that many men prominent in the world of big business depended upon her for guidance in financial and medical matters.

It is this type of business mind which is behind much of the mess in American life to-day.

The menace to medicine involved in schemes and projects designed or promoted by such minds is something to be thought about deeply.

At this very moment much that is disquieting to us is traceable directly to the Adams-clientele type of jackass.

The Loving and Blasting of the Modern Child

Interest in the life of the child has waxed to a high point. There has been a feverish concern with the psychology, health, happiness and capacities of the child. The child has been the very center of the social scene, the precious cynosure of loving and thoughtful eyes.

This phenomenon owes its occurrence merely to the fact that fewer children have been born, and have consequently been given an inordinate amount of attention and care.

Now comes the paradox. The same machine civilization which has decreed and brought about the fall in the birth rate, and inadvertently stimulated this unwonted and meticulous attention, is now making wretched the condition of its children through malnutrition and the seeds of future disease. It is striking viciously at this bootlegged generation.

Here indeed is a brutal challenge to love itself.

THE YEARLY INDEX

A comprehensive and convenient index to THE MEDICAL TIMES for 1932 has been compiled. To subscribers and advertisers desiring to secure the same, we shall be glad to send a copy of the Index on request. But, as we have printed only enough to supply the estimated demand all who wish a copy are urged to send for it at once.

Ultimate Results from Operations on Biliary Tract

E. Starr Judd and James T. Priestley, Rochester, Minn. (*Journal A. M. A.*, Sept. 10, 1932), state that although cholecystectomy is now generally preferred for primary disease of the gallbladder, certain surgeons still perform cholecystostomy in a considerable number of cases. The author's data indicate that a greater percentage of good results followed the former operation. Ordinarily the gallbladder is removed except in the presence of certain definite contraindications.

Miscellany

A Day in the Life of a Health Insurance Panel Doctor

The medical supervisor declares a workman ineligible for benefit whom you have visited three times.

The medical supervisor discharges a case from further benefit which in your judgment needs further attention.

The weekly visit to paymaster's window.

The slip showing amount of "piecework" done.

The 60 per cent salary dock, because of what the medical supervisor considers too many visits.

The wrangling with officers, managers, auditors, inspectors, examiners, stenographers and clerks.

The deception by numerous malingerers.

The chagrin and loss of spirit.

The fading of the sense of individualism.

The farewell to independence.

The unrelieved wage poverty.

The shadow of paternalism.

The misleading statistical data.

The hurried work.

The snap diagnosis.

The stereotyped therapy.

The failure of preventive medicine.

The class distinction between health insurance doctors and those happily independent of such work.

The loss of social and professional prestige.

The bickering with arbitration committees.

The political jobs and jobbery of the State Commission phase of health insurance.

The five-dollar obstetric case.

The palliation of social injustice.

The anesthesia of the American workman.

The further degradation of the middle class.

The vitiation of the old-time relationship between physician and patient.

The sense of failure as a uniformed commercialist.

The bureaucratic status.

The medical society meeting.

The usurpation of the scientific program by health insurance matters.

The decision to strike.

The dismal prospect.

The sense of professional demoralization.

The cursing of those who wished socialization upon us.

Dr. William Brady on the Socialization of Medicine

The majority report of the committee proposes that doctors everywhere go into little huddles and make deals with the people in their community whereby all hospital, home and other expenses of sickness, not to mention the egregious doctor bill, shall be taken care of as a regular current base charge of a dollar or two a month per person.

This startlingly original plan would afford an excellent opportunity for numerous idle economists, accountants, managers, company presidents, secretaries, board members, etc., to conduct the doctors' business affairs for them.

The "organized group" plan of medical practice is corporate practice, in plain words. It is going to be so much more businesslike and satisfactory to the subscriber with the bellyache or shot nerves to apply at the third wicket to the left and explain to the efficient lady secretary-in-chief where, how and why you want your doctor. None of this ringing up before business hours in the morning or after dark at night and saying, "Hey, doc, sorry to bother you, but the wife is getting pains every six minutes now—think you'd better drop in?" No, sir. Present this slip to the assignment clerk over there in the alcove and take your position at the end of the line in the corridor. One of the examining physicians will reach you in due course.—*Brooklyn Daily Eagle.*

Medical Mass Production

The recommendations of Dr. Ray Lyman Wilbur's committee for the partial socialization of medicine are certain to inspire more confusion and doubt than confidence. The promise that is extended of the elimination of incompetents, exorbitant charges by specialists, "fee splitting" and the further promise of making medical attention available to others than the very rich and the very poor in return for reasonable insurance charges will not dispel the layman's natural repugnance to the idea of making something like a fireman or a policeman of the man with whom his family has its most intimate relations outside the family circle.

The question of the motives behind the Wilbur committee's report was, indeed, raised by the New York Medical Society as long ago as last May when its journal said, among other caustic things: "Political and lay control of medicine has always meant deficient service to the people, with lowered morale and unlimited malingering, enslavement of the physician, decline in the science and art of medicine, increased cost to industry or the taxpayer, or both, and lessened rewards for physicians." With the report itself there also appear two minority reports, the first with exceptionally heavy support, opposing every suggestion of "mass production." This has been given prompt and vigorous indorsement by the American Medical Association, and this has in turn elicited from Mr. Morris Llewellyn Cooke, the new chairman of the Wilbur committee, a public statement in which the spokesman for orthodox practice are called a "bureaucracy" and denounced for "pussyfooting and compromising." Doubtless there is more of this to come.

Meanwhile the Wilbur report does lay itself open to suspicion by appearing to favor community or state support for what "The Medical Association Journal" calls "medical Soviets" and by making this suggestion overlap upon that of a contract or insurance system. It takes little imagination to see how state support for a kind of medical guild might grow into a political "racket," under which a professional hierarchy would control admission to the guild, the citizen taxed for its support would have no choice of doctor or treatment and the taxpayer's redress for inefficient or perfunctory service would involve something like a Seabury inquiry. The contract system itself is not new. It is pronounced a success in some parts of the world, but has yielded in others a fine crop of unethical practices, as "minority report No. 1" points out. Divorsed completely from the idea of state support, the public might concede it the right to prove itself by experiment and experience, but not otherwise.

The theory of the contract system is that when the family man voluntarily agrees to pay a doctor or group a small sum annually for treatment, he and his dependents go to the physician with symptoms instead of advanced ailments. Logically this should result in more preventive work, less serious illness, better fixed incomes for doctors and less cost per capita among all classes. So it has indeed worked out in isolated communities, here and abroad. But, as the minority report shows, no such voluntary system has gone far in Europe without becoming compulsory, while in this country it has usually bred "loss of personal relationship of patient and physician, demoralization of the professions" and numerous

abuses. Such testimony does not, however, stand in the way of an experiment which the Wilbur committee and its supporters can make anywhere by getting financial support for a medical center and popular patronage, and by proving them that the system can pay its way without Sovietizing the profession.

The imposition of such a system on the public by propaganda and legislative action cannot be too strongly discountenanced. There is no use saying that the Wilbur committee's system would not go this far, for bureaucracies are never satisfied with small degrees of control over individual liberties. The time to check the growth of such ideas is at their inception, which in this case is the immediate present, and we sincerely hope that the orthodox medical bodies will succeed in doing so.—*Herald Tribune*, Dec. 4, 1932.

Socialized Medicine

After a period of research lasting more than five years, Dr. Ray Lyman Wilbur's committee on the costs of medical care has made its report. The report is not an olive branch, but the opening gun in the battle. It has been denounced editorially by the *Journal of the American Medical Association*, and by leaders in medicine in every city in the country. It is only fair to say, however, that it has been supported with equal vigor by medical men, and, with significant vigor, by men whose connection with medicine is indirect or non-existing.

The New York Medical Society put its finger on the central cause of the controversy when it resolved last May to oppose "political and lay control of medicine." It seems to us that political and lay control is exactly what will inevitably result if the recommendation of the majority report are accepted. These recommendations contemplate a type of State-supervised voluntary system, paid for by groups as health insurance. No doubt this system would make proper medical care available to individuals who now pay their money to "quacks," but it also presents undeniable drawbacks. Obviously, when the patient does not choose his physician, but the patient is chosen for the physician, the relations between the two, once personal, become, rather, a matter of business. "Centuries of progress in the conquest of disease gives us confidence," write the authors of the minority report, "that the individual, and not the group, should remain the unit in medical practice."

With that contention, we agree. State-supervised medicine, voluntary at the outset, will inevitably become a medical service that is State-controlled, and, third-rate. Since in this country, unfortunately, "State-controlled" means in practice, subservience to a group of grimy politicians, the peril inherent in the majority plan is too obvious to call for comment. As the New York *Herald Tribune* remarks editorially, there is no use in saying that the system recommended by the majority would never go that far, "for bureaucracies are never satisfied with small degrees of control." We have learned little from experience if we have not learned that. No greater evil could befall a profession than to be brought under political control, and we sincerely trust that the medical profession will immediately adopt measures to avert the calamity which threatens it.

—*America.*

Tularemia from Ingestion of Insufficiently Cooked Rabbit

Monroe Crawford, Orangeburg, S. C. (*Journal A. M. A.*, Oct. 29, 1932), reports four cases of tularemia that are interesting because of the mode of infection. The path of entrance was through the oral cavity and the author believes it was due in part to ingestion of insufficiently cooked rabbit and to contaminated hands. There were no ulcers on the hands or glandular enlargement below the clavicle.

Saratoga Cardiac Therapy

Governor Franklin D. Roosevelt recently made public at Albany a report by the Saratoga Springs Commission regarding the success with which the Saratoga system of Cardiac therapy is being used at the State-owned spa. The Governor's comment on the report was: "I consider the report to be of great interest, as it indicates the vast possibilities of the development of Saratoga Springs." The report to the Governor, signed by Pierrepont B. Noyes, the Chairman of the Saratoga Springs Commission, was as follows:

"I am presenting herewith an interim report upon a significant development of the summer season just closed at the State-owned spa at Saratoga Springs, when it was shown by study of the registrations at the Washington and Lincoln Baths by Dr. Walter S. McClellan, the medical director, that the number of patients who reported or gave evidence of conditions affecting the heart or circulatory system increased to 12.1 per cent this year.

"The State cannot render a greater service to its people than it is doing through the application of the waters and the baths of Saratoga to the treatment of heart diseases. Having the only naturally carbonated mineral waters found in the United States east of the Rocky Mountains, the Saratoga system of cardiac therapy is carried out under conditions that equal in all ways and in some ways surpass those under which the world-famous Nauheim treatment was developed in Germany by the Schotts and the Groedels. Nowhere else in the eastern United States is it possible to get such treatments except with artificially carbonated waters.

"The need for cardiac therapy is steadily growing greater. Data collated by the Commission show that among the population of 118,560,800 in the registration area of the United States in 1930 deaths from diseases of the heart reached a total of 253,084, an increase to 213.5 deaths per 100,000 from 210.8 per cent in 1929. Deaths from heart diseases led the list by a wide margin, being considerably more than twice as great as those from cancer.

"The increase in deaths from heart diseases was 3.2 per cent between 1929 and 1930. The rate of increase grows from year to year, apparently. For the first eight months of 1932 studies of the Metropolitan Life Insurance Company show an increase of 3.8 per cent over 1931, with eighteen of every 100 deaths now resulting from these causes.

"Incidence of heart diseases is far greater, of course, than mortality. Heart diseases are not reported except in cases of death, and accurate statistics cannot be given. Studies by the Department of Health of the State of New York indicate, however, that there are at least nine active cases for every death, with the probability that the proportion may be as high as fourteen to one. The estimate, therefore, is of a minimum of 300,000 cases in New York State. The inference is reasonable that for the country as a whole the active cases exceed 3,000,000.

"Heart diseases, it is to be remembered particularly, are common among children. They rank third among the causes of death among the young, and from 1921 to 1927 twenty out of every 100,000 children between five and nineteen years of age died of heart diseases in the registration area which then comprised thirty-seven States and 82 per cent of the population.

"The places where systematic, scientific treatment of heart conditions may be had are few. In comparison with the need for them their number is shockingly small. That the State-owned spa at Saratoga Springs is one of these places, that its system of cardiac therapy has been so perfected, and that a steadily growing of number of people are taking advantage of it, are matters of pride and satisfaction to the Commission—a feeling in which I am sure you will join."

Asks R. F. C. Hospital Aid

The American Hospital Association, through its Secretary Dr. Bert Caldwell, has appealed to the Reconstruction Finance Corporation to extend its aid to hospitals over the nation not receiving help from tax sources, to enable further accommodation of charity patients and to prevent many hospitals from closing their doors because of lack of funds.

The hospitals within the last two years used one-third of their expenditures to care for nonpaying patients. Because of lack of funds, 162 of the hospitals have had to close their doors this year.

Our public tax-supported institutions are, without exception, crowded far beyond their bed capacities and the voluntary hospitals have exhausted their resources in caring for the non-paying patients.

MEDICAL BOOK NEWS

Edited by WILLIAM HENRY DONNELLY, M.D.

All books for review and communications concerning Book News should be addressed to the Editor of this department at 1313 Bedford Avenue, Brooklyn, New York.

JANUARY, 1933

REVIEWS

Clinical Endocrinology of the Female

CLINICAL ENDOCRINOLOGY OF THE FEMALE. By Charles Mazer, M.D., and Leopold Goldstein, M.D. Philadelphia, W. B. Saunders Company, 1932. 518 pages, illustrated. 8vo. Cloth, $6.00.

Mazer and Goldstein's book is exceptionally good. It is particularly valuable because it stresses the clinical application of the new knowledge. It fills a distinct need. Here is no dry and dust collection of facts and diagrams, but a clear, easily read record of the authors' experiments and details of the research work of others. Illustrations are excellent. The authors' method of treating menstrual disorders by injection of urine obtained from pregnant women is of great interest, yet their faith in commercial extract of corpus luteum is hard to understand. Intended for the general practitioner, it deserves the highest consideration of the gynecologist.

CHARLES A. GORDON.

Mental Deficiency Due to Birth Injuries

MENTAL DEFICIENCY DUE TO BIRTH INJURIES. By Edgar A. Doll Ph.D., Winthrop M. Phelps, M.D. and Ruth Taylor Melcher, M.A. New York, The Macmillan Company, 1932. 289 pages, illustrated. 8vo. Cloth, $4.50.

These investigators chose twelve subjects from an institution population of five hundred mentally deficient individuals. The mental retardation of each of these twelve subjects was considered to be due to brain trauma sustained during birth. Methods in common use with certain modifications and revisions were applied in an attempt to determine the mental status of each subject. The data obtained indicated that the mental deficiency may in a measure be the result of motor handicap preventing the "expression of the natural development of the intelligence"—The results from the physical therapy applied seemed to support this idea, although as stated by the authors, longer periods of observation would give more convincing results. It would seem that the report was somewhat premature but no doubt it will give invaluable aid to future investigators.

JEFFERSON BROWDER.

Endocrine Medicine

ENDOCRINE MEDICINE. By William Engelbach, M.D. Volumes 1, 2, 3 and an Index Volume. Springfield, Illinois, Charles C. Thomas, 1932. 1795 pages and 933 illustrations. 8vo. Cloth, $35.00.

In "Endocrine Medicine", Doctor Engelbach has given us the most recent consideration and analysis of the theory and practice of Endocrinology.

The work consists of four volumes. The first volume considers the history of endocrinology and a compact review of its anatomy, physiology and histopathology based upon analyses of the available facts in both laboratory and clinical research.

In the second and third volumes the author analyzes over 2,000 personal cases and discusses the infantile, juvenile, adolescent and adult endocrinopathies under the following groupings: Thyroid, hypophyseal, biglandular (thyroid and pituitary), gonadal, parathyroid and thymic disorders. Each section is arranged in three divisions: The first considers the various endocrinopathies of each life period with the interglandular associations; the second deals with the relation of the endocrinopathies to general practice and the specialties including the associated disorders of the non-endocrine system and the third considers the relation of endocrine disorders to public health including mental retardation, behavior disorders and the psychoses.

General discussion is followed by complete case reports, comments and indications for therapy with evaluation of results. Emphasis is placed on the inherent etiology of all the endocrinopathies occurring during infancy and childhood. Engelbach feels that prenatal prevention is more important than early diagnosis and treatment and strongly advises that prophylactic treatment should be instituted during pregnancy toward correcting maternal hypofunction, especially of the thyroid.

Anthropometric measurements and rate of osseous development are stressed as diagnostic criteria and standards of normal annual variations from birth to 20 years of age are offered. Engelbach, more than any other one author, deserves credit for placing these aids in diagnosis within the reach of the general practitioner as well as the student of endocrinology.

Unfortunately, Doctor William Engelbach succumbed to cardiac disease a few months after the publication of his "magnum opus." Those of us who had the privilege of knowing him, remember him as a whole-hearted, systematic and energetic physician who will rank as one of the pioneers of American Endocrinology. In his untimely death, both general medicine and endocrinology have sustained an irreparable loss.

"Endocrine Medicine" is a credit to both publisher and author and is recommended to the general practitioner as well as to the endocrinologist. The field of this work is aptly stated by Dr. Lewellys Barker in his Foreword: "Compilations of endocrine knowledge have a particular value for the general practitioner, greater perhaps than texts dealing with any other special branch, for the doctrine of the internal secretions permeates the whole of modern medicine."

MURRAY B. GORDON.

Introduction to Dermatology

AN INTRODUCTION TO DERMATOLOGY. By Richard L. Sutton, M.D. and Richard L. Sutton, Jr., M.D. St. Louis, The C. V. Mosby Company, 1932. 565 pages, illustrated. 8vo. Cloth, $5.00.

It is rather unusual to have a text written by father and son as in this instance, and it is interesting to see the result of such a combination. It gives us the viewpoint of the younger man who has not yet forgotten that his associates during his college days did not entirely comprehend the discourses of the highly specialized text on Dermatology, and has tempered this with the knowledge and experience of one who has served well in teaching, and in the writing of more voluminous texts.

This book is not a manual of dermatology, but is truly an abbreviated text. It is published for the student, and, as such, omits none of the diseases with which he should be familiar, or of which he should at least recognize the names, as in the case of rare entities. The descriptions of anatomy and physiology of the skin have, however, been reduced to a safe minimum, and the consideration of the diseases have likewise been curtailed to include only the essential elements.

The reviewer would heartily endorse this book, and recommend it to the student, for whom it was intended.

E. ALMORE GAUVAIN.

Community Health Organization

COMMUNITY HEALTH ORGANIZATION. A Manual of Administration and Procedure for Cities of 100,000, with Suggested Modifications for Larger and Smaller Urban Units. Edited by Ira V. Hiscock. New York, The Commonwealth Fund, 1932. 261 pages. 8vo. Cloth, $2.50.

This gives an unusually good picture of health work from a governmental standpoint. The various types of health organizations are outlined. The relation of health control as part of government is particularly stressed. For students of community health and for those who are responsible for setting up health organizations it is an invaluable aid.

J. J. WITTMER.

Applied Bacteriology

APPLIED BACTERIOLOGY. By Thurman B. Rice, M.D. New York, The Macmillan Company, 1932. 276 pages, illustrated. 8vo. Cloth, $2.50.

In this book, the author has fully succeeded in accomplishing all the objectives set forth in his preface. The subject matter is presented in a manner that is interesting, convincing, and to the point. Furthermore, the subject is presented in a manner that explains the necessity for certain nursing procedures, making the book ideal for nurses in training. An understanding of the essentials of bacteriology, as set forth in this book, is necessary so that the nurse may be efficient in sterilization and disinfection, so that she may practice asepsis and the principles of isolation properly, and also may intelligently collect and handle specimens for bacteriological examination. Perhaps the most valuable part of the manual, from the teaching standpoint, is the abundance of illustrations. The illustrations consist in drawings of the various bacteria and of bacteriological apparatus in a diagramatic fashion; for purposes of clarity. These drawings, together with the simplicity of presentation of the subject matter insure a complete understanding by one unfamiliar with the subject.

ALEXANDER S. WIENER.

Functional Disorders of the Large Intestine

FUNCTIONAL DISORDERS OF THE LARGE INTESTINE AND THEIR TREATMENT. By Jacob Buckstein, M.D. New York, Harper & Brothers, 1932. 265 pages, illustrated. 16mo. Fabrikoid, $3.00. (Harper's Medical Monographs).

This monograph is presented in a practical way and covers the entire subject of functional disorders of the large bowel. Of special interest to the practitioner is the consideration given the question of treatment.

The dietetic management of all functional conditions is discussed and all diets are outlined.

The book contains many sketches which are taken from the accepted authorities who have worked on the anatomy, physiology, x-ray, etc., of the colon. At the end of the volume, there are numerous Roentgenographs of the author's illustrating the conditions discussed in the book.

This monograph is highly recommended to the general practitioner and in fact to any one interested in the subject.

IRVING GRAY.

Minor Surgery

MINOR SURGERY. By Frederick Christopher, M.D. Second edition. Philadelphia, W. B. Saunders Company, 1932. 998 pages, illustrated. 8vo. Cloth, $10.00.

This is the second edition of this work on Minor Surgery which was first brought to the attention of the profession in 1929. The first edition was a very popular one because Dr. Christopher had been able to separate minor surgery from major surgery in a more concise manner than any previous author writing on the same subject.

The second edition is essentially the same as the first except that the section on Vascular diseases has been rewritten and the best Clinical and experimental researches which have been brought out since the issue of the previous edition have been added. The author's method of handling the various Minor surgical problems proves him to be a keen observer and good student, and also very practical. The chapters on foreign bodies, burns and infections of the hand, illustrate exceedingly well, the qualities of the author. The chapter on the Surgical Intern makes the volume exceedingly valuable to that group of young surgeons who need more training in this particular branch of surgery during their hospital work. Anything that can be done to impress them with the importance of carefully and successfully handling the minor problems, is, we are sure, welcomed by the surgeon who has a surgical service in the larger hospitals, where so often we find the Intern better equipped to do major surgery than he is to handle the minor problems that are so very essential to his complete training.

This volume is recommended particularly to the young practitioners of surgery as well as to the older surgeons.

HERBERT T. WIKLE.

Internal Medicine

INTERNAL MEDICINE. Its Theory and Practice. Edited by John H. Musser, M.D. Philadelphia, Lea & Febiger, 1932. 1316 pages, illustrated. 8vo. Cloth, $10.00.

It is good to see a big green book with the name of Musser on the back. Medical readers of not so long ago were quite familiar with the recurring editions of John H. Musser, senior's, splendid "Medical Diagnosis." Familiarity with its contents today would still qualify a man as an expert diagnostician. The father dedicated his book to his father Benjamin Musser, M.D., and his grandfather Martin Musser, M.D.

The new book is a text-book on the practice of medicine written by twenty-seven authors chosen by the editor for special knowledge in the fields of which they write. For instance the protozoal infections are covered by no less an authority than Craig, the heart by F. M. Smith, the arteries by George E. Brown, the lungs by J. A. Miller, the endocrines by Means, the spleen by Krumbhaar, allergy by Cooke, and so on. Musser himself writes of diseases of nutrition. The books is well balanced and the individual articles are for the most part concise and reasonably thorough. Osler has taught us to look for a degree of condensation that is difficult to match, but every American medical writer since is to some degree his disciple, and the amount of information which the contributors to this volume have managed to crowd between its covers is remarkable. The book represents, then, a discussion of modern medical problems, which is both authoritative and comprehensive and therefore constitutes a very valuable addition to medical literature.

TASKER HOWARD.

Outwitting Our Nerves

OUTWITTING OUR NERVES. By Josephine A. Jackson, M.D. and Helen M. Salisbury. Second edition, revised. New York, The Century Company, [1932]. 420 pages. 12 mo. Cloth, $2.50.

This book is founded on the premises that all of us are actually or potentially psychoneurotics and that 75 per cent of those seeking medical advice are really mental sufferers. The reader is first cautioned to free himself from the harmful influences of advertising propaganda as well as from his family physician who is either too impatient or too inexperienced to deal with mental ailments. Such a sensational attack on the medical profession by a physician author is obviously too unfair to even deserve comment. Even the so-called quack, untrained in the facts of medicine and constantly under the eyes of the law and of organized medicine, is careful in avoiding such sweeping attacks.

There are certain facts in this book with which the physician would no doubt agree. That of course does not justify the authors in overstepping their bounds of propriety. For example, it is correct to state that many of the simple rules of health cannot stand the acid test of scientific proof. The authors are correct in stimulating their readers to become thinking individuals, to learn to analyze themselves and their needs and not to depend on the mob spirit. On the other hand, they have apparently lost track of some of the scientific phases of medicine when they make such statements as "acidosis may be the underlying cause in many a case of irritable temper."

The physician may do well to become informed with the contents of this book especially since its sale has reached the phenomenal figure of 130,000.

EMANUEL KRIMSKY.

Psychological Effects of Menstruation

THE PSYCHOLOGICAL EFFECTS OF MENSTRUATION. By Mary Chadwick, M.D. New York, Nervous and Mental Disease Publishing Company, 1932. 70 pages, 8 vo. Cardboard, $2.00. (Nervous and Mental Disease Monograph Series No. 56).

This monograph is a brief treatise of fifty-one pages, with a fairly comprehensive bibliography. The subject matter is considered under three headings:

1. The history.
2. The menstrual cycle in Childhood.
3. The Adult Menstrual Cycle.

The paper is purely a psychoanalytical interpretation of the behaviour of the female during menstruation. Of particular interest to the reviewer was the consideration of the historical background.

The author states, it is "the behaviour of women during the menstrual period, which made necessary the prohibitions and limitations imposed upon them in early times." This italicized statement of the author seems to have been proven.

An appendix of thirteen pages contains illustrative cases.

Most psychiatrists will find this treatise of considerable interest.

HAROLD R. MERWARTH.

Manuale de Analisi Chimica Clinica

MANUALE DE ANALISI CHIMICA CLINICA, FISIO-PATOLOGICA ED IGIENICA. By Cesare Serono, M.D. Torino, Unione Tipagrafico —Editrice Torinese, 1932. 483 pages. 8vo. Cloth.

This book is well printed and bound, 464 pages completely indexed, and covering the field of clinical chemical analysis and physiological chemistry very satisfactorily. It compares favorably with similar publications in the United States. One familiar with this phase of Medicine, can follow it very nicely, notwithstanding the fact, that it is published in Italian.

G. DEYOANNA.

Il Medico Si Diverte

IL MEDICO SI DIVERTE. No. 8. 1932. Naples, "Rinascenza Medica," 1932, 190 pages, illustrated. 8vo. Paper.

"The Doctor enjoys Himself," the title of a small book of 190

pages, published by the Rinascenza Medica, Director Prof. Carlo Martelli, Naples, Italy, 1932.

It consists of descriptive and illustrated anecdotes and satires, relating principally to patients and their doctors. It is rather amusing, and might be of interest to one having some knowledge of the Italian language.

G. DEYOANNA.

Spunti Di Terapia Pratica

SPUNTI DI TERAPIA PRATICA. No. 8, 1932. Naples, "Rinascenza Medica," 1932. 202 pages. 8vo. Paper.

This small book of 202 pages, consists of short chapters on such subjects as: Treatment of Diabetic Acidosis; Therapy of Eclampsia; The care of Pulmonary Tuberculosis in the Diabetic; Management of Pernicious Anemia; Modern Therapy of Syphilis; Management of Acute Appendicitis; and numerous other important subjects; all rather condensed, by different authors. With a fair knowledge of Italian, it might be found quite an important addition to the general practitioner's library.

G DEYOANNA.

Men Against Death

MEN AGAINST DEATH. By Paul de Kruif, Ph.D. New York, Harcourt-Brace & Company, [c.1932]. 363 pages, illustrated. 8vo. Cloth, $3.50.

Here is a book, no doubt written for laymen, that over ninety-five per cent of the medical profession should read. They should read it because they will learn what some of their co-workers have done, often at the price of life, itself, that man may live longer. They should read Men Against Death because while as physicians they are compelled to read so many dry, heavy tomes, often a mental routine that they may keep up with the times, here is a book that contains all the joy of a swell radio broadcast, a sparkling play, and an absorbing novel, all in one. This review is not written from reading the publisher's blurbs on the jacket. We have read it from cover to cover. We enjoyed it more than Microbe Hunters, and that's a gem of its kind, also. de Kruif quotes Charles F. Kettering when he says, "The doctors tell us there are certain diseases that are incurable. Do you know what an incurable disease is? It is one that the doctors don't know anything about. The disease has no objection to be cured at all."

The author in his prologue tells us he is 39 years old and does not want to die, that of one hundred thousand who were born during his year thirty thousand have fallen, and the L-x line of the Life Tables after one reaches forty are nothing to get enthusiastic about. And so we are led, on pathways that are full of human interest, gossip, facts and dramatic scenes, through the careers of men, many of them unknown to us, men who lived lonely lives, and of some of them who died in their quest to perfect a cure for a thing that had been incurable. We first read the strange story of Semmelweis, then of Banting who made it possible for those suffering with diabetes to live longer. In their order, we find pleasure in learning of Minot and how the liver diet for pernicious anaemia was discovered; of Spencer who found a fantastic way to guard men from spotted fever. We particularly like that chapter. We learned of Evans' work to remove one of the great dangers in the American milk supply. Parrot fever was in every paper not so long ago. Who knew anything about it? McCoy did great and valuable work. The author entitles it "a general who didn't want to die in bed." Schaudinn discovered the pale horror of syphilis. How many know the story? Or of Bordet's investigations to discover the hiding place of the spirochetes, and who gave hope to all who'd fight their fate. Wagner-Jauregg found the way to fight paresis by the "friendly fever," by giving the victim malaria, and of the later discovery which made this possible by electrical means. Finsen was a Dane and he trapped the light of the sun, while Rollier showed the way men can save millions in getting themselves well by the old sun which can be had for nothing. The sketches end with an account of Strandberg who turned Finsen's machine-sun on TB's most desperate consequence. There is an epilogue.

If one wishes to make a physician or an intelligent layman a gift we urge him to purchase this book for the purpose. It will be a best seller and on merit it deserves to top all lists.

T. S. WELTON.

A CRITICISM AND A REPLY IN RE:

PRACTICAL ENDOCRINOLOGY. By Henry R. Harrower, M.D., 2nd edition. Glendale, Cal., Pioneer Printing Company, Inc., 1932. 701 pages. 8vo. Fabrikoid, $5.00.

THE HARROWER LABORATORY, INC., GLENDALE, CALIFORNIA.
Office of HENRY R. HARROWER, M.D., Director.

November 8, 1932.

Dr. J. S. BENDETSON,
1315-51st Street,
Brooklyn, New York.

My dear Dr. Bendetson:

I have just had a chance to read your review of my book and to write a letter to the Editor of the *Medical Book News* department in the November, 1932, issue of the MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL. I am enclosing a copy of this.

Don't you think you were just a trifle harsh in some of your conclusions? And don't you think that the statement, which I have not referred to in my letter to him—"Epilepsy, rheumatism and other maladies, the author states, may be approached by endocrine pills," is just a trifle nasty? Will you not agree with me that there are endocrine aspects in these particular conditions which deserve to be treated, no matter what other treatment may be given?

Understand, Dr. Bendetson, that I am perfectly willing to agree that you have a right to your own convictions and to express them, but it is not right to impute things that are not so, and you have made some references in this review which are untrue, and I think that it is perfectly proper to call your attention to it.

Very truly yours,

HRH, ba (Signed) HENRY R. HARROWER.

THE HARROWER LABORATORY, INC., GLENDALE, CALIFORNIA.
Office of HENRY R. HARROWER, M.D., Director.

November 8, 1932.

Dr. William H. Donnelly,
1313 Bedford Avenue,
Brooklyn, N. Y.

My dear Dr. Donnelly:

My attention has been called to the review of my book, "Practical Endocrinology," by Dr. J. S. Bendetson, of Brooklyn, in the November, 1932, issue of the MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL, and it is suggested that perhaps I should write to you in defense of one or two things with which I am erroneously credited.

Of course, I realize that Dr. Bendetson is entitled to his opinion of my book and to express himself as freely as may be permitted, but when he says "each individual gland including the liver and spleen, although up to the present there is no conclusive proof as to the latter organs belonging to the endocrine family" he is laying himself open to criticism, because numerous workers have reported that the liver produces at least two vitally important hormones, both of which can be separated from the tissue and used with real benefit in therapy.

Again: "This is followed by a discussion of diseases among which are included hemorrhage, angina pectoris, Hodgkin's disease and the common cold, all apparently having their source of origin in one or more secretary (sic.) glands." This is obviously a misstatement because no such indication can be found in the book. It does happen, however, that certain new developments with the "second pancreatic hormone"—free from insulin—can be used with advantage in angina pectoris and that hemorrhage may occur in certain cases where defects in the calcium-fixing powers of the body are referable to endocrine dyscrasia.

Also: "the most objectionable part of the author's book is his too frequent references to his own researches and to his commercial products." Naturally, I know best what I have done, but it is very evident that Dr. Bendetson has not noticed hundreds of references to preparations that are made by firms whose names are given. There are scores of such references to one reference to my own work and preparations.

Personally, I think that Dr. Bendetson's report about my book should be revised and at least some of the obvious errors in his statement corrected.

Very sincerely yours,

HRH. ba (Signed) HENRY R. HARROWER.

Dr. Bendetson's comment on these communications follows:

December 7, 1932.

Doctor Harrower's letter regarding my review of his book on Practical Endocrinology is rather a surprise to me.

In the first place, the author displays poor sportsmanship when he refers to some parts of the review as being *harsh* and *nasty*.

Second, Doctor Harrower desires his book, as I understand it, to be a guide to all men in general practice. These men must be given medical information that is genuine and of proven value without a doubt. That someone has isolated two distinct hormones from the liver does not, as Doctor Harrower implies, immediately bring this organ into the definite endocrine group. In the past twenty years hormones have been isolated by different

workers from nearly every organ in the body and have been so reported in the medical literature.

Third, regarding hemorrhage, angina pectoris, etc., in their relation to the secretory gland, I would ask the author to kindly reread that part of his book and see if it does not attempt to correlate them. In the present circumstances I do not deem it proper to actually quote certain parts of the book to prove the above statement.

Fourth, any reviewer of a book naturally expects a certain amount of modesty when reading of the author's personal researches and accomplishments. I expressed no doubt as to the validity of Doctor Harrower's work or of the products. What I berated is a conspicuous feature of the book.

The author has been given sufficient credit in the first part of the review in the appraisal—"A study of it reveals that the author unquestionably has devoted a great deal of time and energy to the preparation of this volume."

(Signed) JOSEPH S. BENDETSON.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgement of receipt has been made in this column.

OUTLINE OF PREVENTIVE MEDICINE. Prepared Under the Auspices of the Committee on Public Health Relations New York Academy of Medicine. Second edition. New York, Paul B. Hoeber, Inc., 1932. 462 pages. 12mo. Cloth, $5.00.

THE EXPERIMENTAL ANALYSIS OF DEVELOPMENT. By Bernhard Dürken, M.D. New York, W. W. Norton & Company, Inc., [1932]. 288 pages, illustrated. 8vo. Cloth, $4.75.

BLIND FLIGHT IN THEORY AND PRACTICE. By William C. Ocker, Major, Air Corps., U. S. Army and Carl J. Crane, B.M.E. Naylor Printing Company, San Antonio, Texas, 1932. 200 pages, illustrated. 8vo. Cloth, $3.00.

DIE THERAPIE AN DEN BERLINER UNIVERSITÄTS-KLINIKEN. By Wilhelm Croner, M.D. and Heinz Kalk, M.D. 10th Auflage. Berlin, Urban & Schwarzenberg, 1932. 699 pages. 12 mo. Cloth, RM. 15.

EPIDEMIOLOGY, Historical and Experimental. By Major Greenwood, F. R. S. Baltimore, The Johns Hopkins Press, 1932. 80 pages. 8vo. Cloth, $1.50.

FUN IN BED, The Convalescent's Handbook. Edited by Frank Scully and others. New York, Simon & Schuster, [c.1932]. 187 pages, illustrated. 8vo. Cloth, $2.00.

THE ART OF ANAESTHESIA. By Paluel J. Flagg, M.D. Fifth edition. Philadelphia, J. B. Lippincott Company, [c.1932]. 416 pages, illustrated. 8vo. Cloth, $5.00.

DIAGNOSTIC MEDICALE PRATIQUE. By Paul Halbron, M.D. Paris, Felix Alcan, 1932. 622 pages, 12 mo. Cloth, 50 francs.

L' ETAT REACTIONNEL. Evolution du Tissu Lymphoide en Réaction. By A. Guieysse-Pellissier, M.D. Paris, Felix Alcan, 1932. 224 pages, illustrated. 12mo. paper, 20 francs.

THE GOLD-HEADED CANE. By William Macmichael, M.D. Edited by Herbert Spencer Robinson. New York, Froben Press, Inc., 1932. 223 pages, illustrated. 8vo. Cloth, $3.50.

ALCOHOL AND MAN—The Effects of Alcohol on Man in Health and Disease. Edited by Haven Emerson, M.D. New York, The Macmillan Company, 1932. 451 pages. 8vo. Cloth, $3.50.

LET'S OPERATE. By Roy H. McKay, M.D., and Norman Beasley. New York, Ray Long & Richard R. Smith, Inc., 1932. 361 pages. 8vo. Cloth, $3.00.

THE CAMBRIDGE MEDICAL SCHOOL. A Biographical History. By Sir Humphrey D. Rolleston, M.D. Cambridge, Eng., The University Press. (New York, The Macmillan Company,) 1932. 235 pages, illustrated. 8vo. Cloth, $5.00.

NON-TROPICAL SPRUE. A Study in Idiopathic Steatorrhoea. By Th. E. Hess Thaysen, M.D. New York, Oxford University Press, 1932. 258 pages, illustrated. 8vo.

HABITS—Their Making and Unmaking. By Knight Dunlap, Ph.D. New York, Liveright, Inc., [c.1932x]. 326 pages. 8vo. Cloth, $3.00.

FINAL REPORT OF THE COMMISSION ON MEDICAL EDUCATION. New York, Office of the Director of Study, 1932. 56 pages. 8vo.

RADIOLOGIC MAXIMS. By Harold Swanberg, M.D. Quincy, Ill. Radiological Review Publishing Company, 1932. 127 pages. 12mo. Cloth, $1.50.

HARMONIOUS DEVELOPMENT OF WOMEN'S BODIES. By Alice Bloch. New York, Ray Long & Richard R. Smith, Inc., [c.1932]. 162 pages, illustrated. 8vo. Cloth, $3.00.

CULTIVATING THE CHILD'S APPETITE. By Charles Anderson Aldrich, M.D. New York, The Macmillan Company, 1932. 137 pages. 12mo. Cloth, $1.25.

OPIUM, THE DIARY OF AN ADDICT. By Jean Cocfeau, New York, Longman's Green & Company, 1932. 188 pages, illustrated. 12mo. Cloth, $2.00.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 12, No. 6. (Philadelphia Number). December, 1932. Issued serially, one number every other month by the W. B. Saunders Company, Philadelphia and London. Per Clinic Year (6nos.) Paper, $12.00, Cloth, $16.00.

THE DIAGNOSIS AND TREATMENT OF POSTURAL DEFECTS. By Winthrop Morgan Phelps, M.D. and Robert J. H. Kiphuth. Springfield, Ill., Charles C. Thomas, 1932. 180 pages, illustrated. 8vo. Cloth, $4.00.

MODERN ALCHEMY. By William Albert Noyes and W. Albert Noyes, Jr. Springfield, Ill., Charles C. Thomas, 1932. 207 pages, illustrated. 8vo. Cloth, $3.00.

BIOGRAPHISCHES LEXIKON DER HERVORRAGENDEN ARZTE DER LETZTEN FUNFZIG JAHRE. By I. Fischer, M.D. Volume I. Berlin, Urban & Schwarzenberg, 1932. 800 pages, illustrated. 8vo. Cloth, Marks 42.

Contemporary Progress

(*Concluded from page* 24)

weight, without intestinal disturbances or constipation. The dosage was variable, and in some cases small amounts were definitely protective against rickets. The best results were obtained when this salt was added to a mixture of unsweetened milk and a stock solution containing karo syrup and lactic acid. Next in order were condensed milk formulae; dried milk mixtures; dilutions of cow's milk. The value of the addition of this secondary calcium phosphate to milk in the prevention of rickets depends chiefly, the author believes, on the fact that the calcium and phosphorus of cow's milk is not available for complete metabolism because a large amount of both of these elements is "encased in the curd" and apparently not available and this salt supplies the amount of calcium and phosphorus necessary.

Powdered Citric Acid Milk In Infant Feeding

H. D. Lynch (*Archives of Pediatrics*, 49-763, Nov., 1932) reports the use of powdered citric acid milk in the feeding of 28 infants in comparison with suitable control cases fed on powdered whole milk. The powdered whole milk is used almost entirely for infant feeding in the author's clinic in Evanston, Ill. The average length of time under observation was just under six and a half months. It was found that both the group fed on powdered citric acid milk and the group on powdered whole milk showed very satisfactory gain in weight—practically the same in both groups—1 lb. 5½ oz. per month in the citric acid group and 1 lb. 6 oz. in the whole milk group. The gain in weight did not represent "mere accumulations of fat," but healthy growth. The two groups were very similar in general progress, reaction to infection, and the occurrence of gastro-intestinal disturbances. The optimum addition of citric acid for powdered milk was found to be 2 gm. to the quart; while with whole cow's milk as much as 4 gm. to the quart is used. Milks altered by physical means seem to require less alteration by chemical means as an aid to digestion. For routine use powdered citric acid milk seems to have no advantages over powdered whole milk, and the addition of the acid seems unnecessary for normal infants. In the author's experience powdered whole milk has proved an excellent food for routine use in infant feeding.

Clinical Partition of Blood Protein by Scopometry: I. Preliminary Report

William G. Exton and Anton R. Rose, with the assistance of Fred Schattner, Frances Edel and Mary McCarthy, Newark, N. J. (*Journal A. M. A.*, Oct. 8, 1932), discuss the underlying principles and, a simple clinical method for determining blood proteins has been outlined. As constituted at present, the system includes total protein, albumin, globulin and fibrinogen, three albumin and four globulin subfractions, and proteose and glycoprotein. The method is adapted to the study of metabolic, serologic, immunologic, enzymatic and similar phenomena involving proteins and applicable to transudates and other body proteins. Determinations on twenty normal and eighty pathologic specimens of blood are reported in a preliminary way to illustrate the practicability of the procedure for clinical routine and study.

Tumors of Pelvic Bones

Clarence B. Francisco, Kansas City, Mo. (*Journal A. M. A.* Nov. 26, 1932), reports five cases of tumors of the pelvic bones and from his observations he concludes that in cases in which the diagnosis is obscure, in either children or adults, the possibility of a malignant involvement of the bones of the pelvis should be kept in mind. The prognosis of certain well defined tumors of the pelvic bones cannot be predicted with any degree of certainty. Benign tumors of the pelvic bones actually occur relatively infrequently, and every tumor in this region should be looked on with suspicion. Radical resection of a chondroma of the pelvis should be carried out early in an attempt to prevent malignant degeneration in later years.